



LEGENDS OF THE WIRELESS PIONEERS



SPARKS JOURNAL

VOLUME 3, NUMBER 1

SPARKS - JOURNAL

"KFS" EDITION

THE 'KFS' STORY

A TRIBUTE TO OUR LAND-STATION "PROFESSIONALS" THE WORLD-OVER

Highlights of my 35 years at KFS

By Eben K. Cady

KFS did get those messages and from them and many others; an espionage communications circuit was developed deep into enemy held territory from the mountains of Luzon to the jungles of Mindanao. This mission continued until General MacArthur returned to the Philippines.

Before going into this episode, I would like to give a brief account of the part played by the Marine Radio Coastal Stations which extend around the sea ports and coastal areas of the world.

... going - but not gone !

We all know, that as a profession, the radio telegrapher and the radio telegraph stations are joining the ranks of "endangered species." Whether these relay kites, 22,000 miles up in the sky, can furnish the same safety and services to the ships sailing the oceans of the world remains to be seen.

Preface

This story by Eben K. Cady graphically reviews the years between 1931 and 1965. During this time, he was progressively Operator, Chief Operator, Ass't. Station Manager and finally Station Manager of one of the major commercial stations of the world. KFS was located on the West Coast of the USA near the Port City of San Francisco.

These years were hectic ones for operators at these major terminal facilities. Little has ever been released or published about the part professional men, at these major stations around the world, played in assisting the war effort. Bound by a code of secrecy and loyalty where the slightest mistake might mean the sinking of a ship or place the lives of men on the line, these men fulfilled their mission with cool efficiency and with a super-sense of patriotism. Historically, we think their stories should now be recorded for posterity.

Society member "Eb" Cady (54-SGP) has distinguished himself as one of the outstanding communications men of the world - especially in the maritime field which linked ships and aircraft with the shores of all civilized countries. The Society feels singularly honored by the selection of Mr. Cady as our Third President, a position he filled with honor and distinction. Few have the opportunity or can equal the life-experience in radio telegraph field that member Eben K. Cady brings to the Society.

The letters quoted at the start of the story are an exchange between Mr. Bodolfo M. Claparols, Regional Director of the Western Visayas, Republic of the Philippines and His Honor, The Mayor, City of San Francisco. The Society feels honored to be able to publish this story which is a part of the heritage of those of our honored craft.

William A. Breniman - Editor

Services and procedures of coastal stations may vary in some way but all use the International Morse Code and the International Q Signals. Most are bound by the International Rules and Regulations of the Telecommunications Union of Geneva. This set-up makes it quite easy to communicate with stations of different nationalities and language.

1931 - Start of a long career

After nine years rolling the briny deep on Federal Telegraph Arc Ships, I was transferred to their coastal station KFS. I was hired as a high frequency operator. This was in 1931.

(CONTINUED ON PAGE 22)



Recording the Early History & Development of the Wireless

SOWP. "PROFESSIONAL" MEMBERS
ARE IN EVERY CORNER
OF THE WORLD



Click on Index item below

HISTORICAL INTEREST FEATURES

- 1. "KFS" STORY - EBEN K. CADY (WAR YEARS)
- 4. FALL RIVER LINE - RAYMOND GREEN
- 9. ADMIRAL ELLERY W. STONE - FRED ROSEBURY
- 11. AMOS EMERSON DOLBEAR - HERBERT J. SCOTT
- 12. COMMUNICATIONS ON THE GREAT LAKES - LCDR. JAMES R. COMERFORD, USCG
- 14. UP THE AMAZON - MATTHEW CAMILLO
- 15. WESTWARD HO ... TO EUROPE - D. K. deNEUI
- 18. PORTISHEADRADIO/GKA - DON MULHOLLAND
- 32. SEA LANGUAGE WASHES ASHORE - R. L. SCHLINE

REGULAR FEATURES

- 3. EPISODES & EXPERIENCES (MEMBERS LETTERS EDITED BY FRED ROSEBURY)
- 16/17CENTER SPREAD OF SOWP MEMBERS - PICTURES
- 31. THE SKIPPER'S LOG
- 31. SALT WATER BOOKSHELF - BOOK REVIEWS

NOTE: DUE TO SPACE LIMITATIONS AND TECHNICAL DIFFICULTIES, A FEW OF THE STORIES SCHEDULED FOR THIS ISSUE HAD TO BE RESCHEDULED. THEY WILL BE CARRIED IN THE FORTHCOMING ISSUE OF SPARKS JOURNAL.

WE FIND IT DIFFICULT TO SCHEDULE ARTICLES FROM OUR MEMBERS IN ADVANCE DUE TO MANY VARYING FACTORS. IT WILL HENCEFORTH BE DISCONTINUED.

NOTICE MAY BE TAKEN THAT REGULAR FEATURES SCHEDULED IN THE JOURNAL WILL APPEAR IN A NEW SKIPPER'S LOG WHICH WILL BE MAILED ALL MEMBERS SEVERAL TIMES YEARLY. THIS WILL INCLUDE CHAPTER NEWS AND DIRECTORIES; ALL PERSONNEL CHANGES (NEW MEMBERS, SILENT KLYS, CHANGES OF ADDRESS, ETC.); SOWP AMATEUR NETWORKS (SCHEDULES AND NEWS). ALSO INCLUDED WILL BE PERIODIC LISTING OF SHIP CHEST ITEMS, ETC. WE HOPE TO COVER ALL IN GREATER DETAIL THAN WE HAVE BEEN ABLE TO DO IN THE SPARKS JOURNAL.



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The primary purpose and objective of the Society is that of collecting, researching, and recording the history of communications - particularly that which relates to Hertzian waves and the wireless or radio-telegraph mode of the art.

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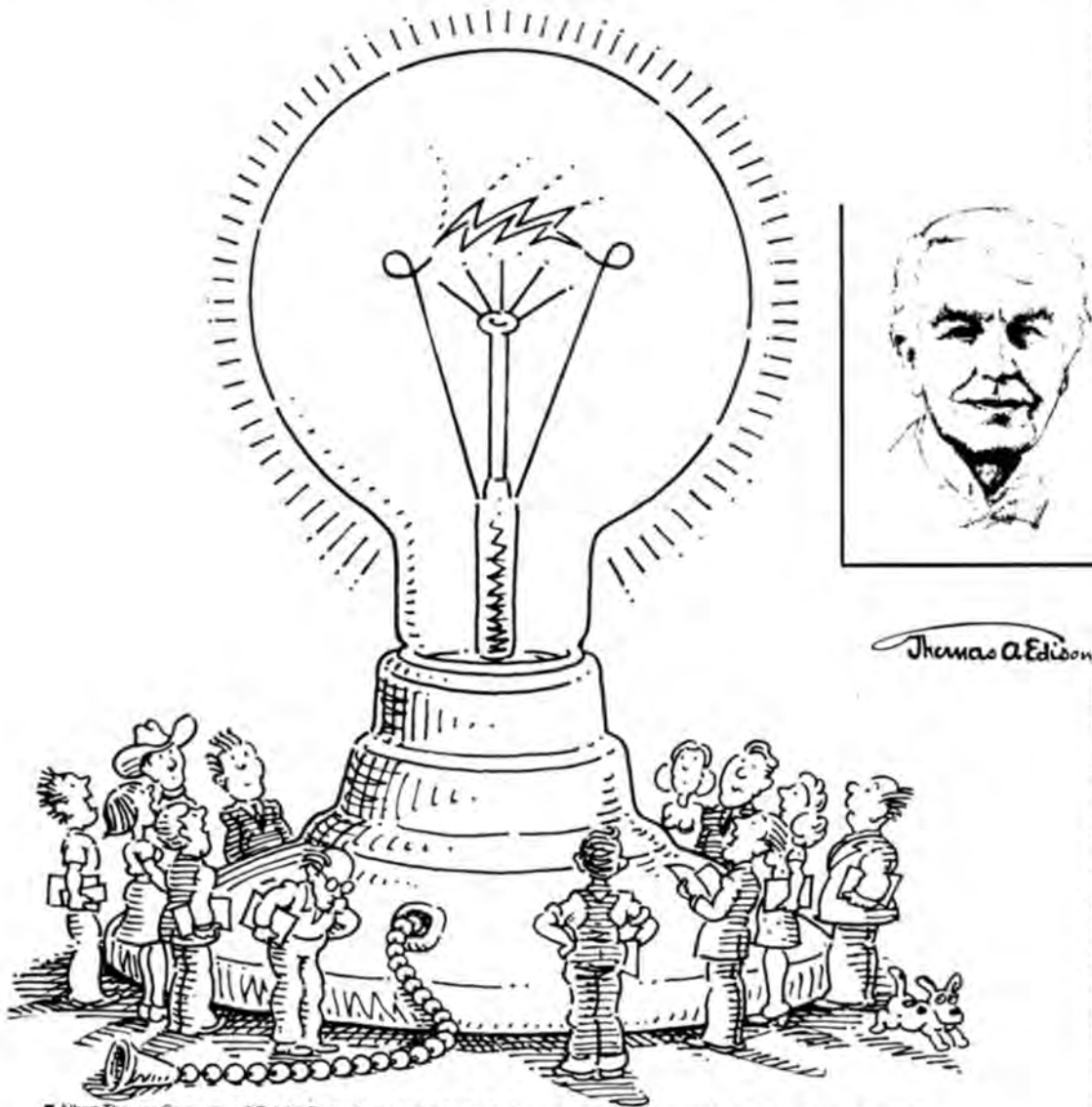
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Tales of the Wireless Pioneers

E & E EDITED BY



FRED ROSEBURY

Adventures & Experiences of Professional Brass Pounders
Around the World



THE GLORY OF THE SEA

The glory of the ocean,
The glory of the sea,
The memory of the rolling waves
Is flowing over me.
The foaming spray, the flying wind,
The flags that flap so gaily,
The little gulls that swoop and dive
Are the songs of a sailor, matey.

A ship is a girl to follow long,
A wench with a thousand wiles,
She breaks your heart on a stormy night
And blesses when she smiles.
She takes you to her mother breast
When the land has cast you down,
She rocks your drunken head till dawn,
And smooths away your frown.

The high born and the low born come
To ships of the seven seas;
It's a hard life and a jolly life,
A life of work and ease.
The siren call of lands beyond
Will follow the sailor ashore,
And he misses the rollicking mates he
loved
When he's old and can ship no more!

...John Warwick Daniel III

NAVY RADIO EXPERIENCES IN WW2

Dave Hardacker writes that from 1939 to 1943 he was a Radio Striker, RM2/c and RM1/c CW operator in the USS CHICAGO (CA29-NAGM) a heavy cruiser commissioned in 1929; a Radio Technician and Chief Radio Technician in the USS CATES (DE763), 1943 through 1944; and Chief Radio Technician in the USS LOUISVILLE (CA28-commissioned in 1928, a sister-ship of the USS CHICAGO) in 1945.

The CHICAGO was the Commander of the Cruiser Scouting Force and Commander of the Hawaiian Detachment in the period from 1940 through the end of 1941. In March of 1941 the CHICAGO made a trip to Sydney, Australia, with ship's prints and fueling hoses. By late 1941 she was back in Australia as a member of the ANZAC Naval Squadron which was the only Naval force in the South Pacific in early 1942. This Squadron was made up of Australian, New Zealand, Free French, Dutch, and three US Naval ships. By late 1942 most of these ships had been sunk in ship-to-ship battles. The CHICAGO had seventy feet of her bow blown off in such a battle in early August 1942. She sat in the harbor at Noumea, New Caledonia, and for some time acted as Radio South Pacific. In this function, before there was a radio station operational in the area, the CHICAGO relayed traffic from the invasion force at Guadalcanal to Fleet headquarters in Hawaii.

A temporary bow was put on in Sydney which enabled the ship to make it to the States for major repairs.

While Dave was a Radio Technician he also filled in as CW radio operator, especially in the USS CATES where he was involved with the "Huff-Duff" (HF/DF) system of locating German U-boat units. The CATES was the Commander of Escort Division 54 which ran convoys in the Atlantic. He was also on the Crypto Board of the USS CATES and Escort Division 54, in which he ran ECM US crypto machines and British ECCM crypto machines. As he had been a CW operator he could sometimes break garbled messages better than others on the crypto board.

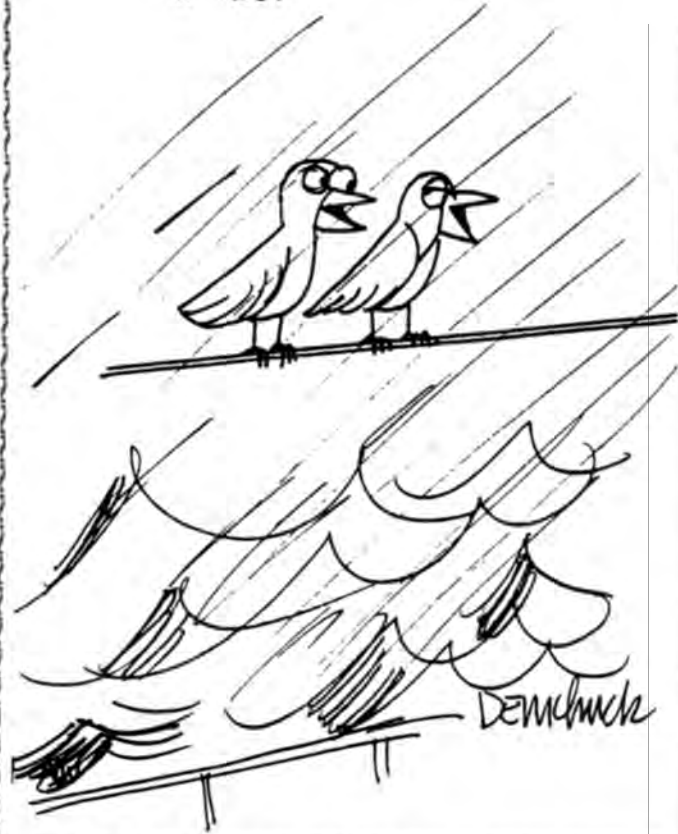
In the USS LOUISVILLE, a heavy cruiser, he was Chief Radio Technician. The LOUISVILLE had fifteen battle stars; it could no longer keep up with the fleet. When the war ended she was sent to Vladivostok, USSR, as a submarine communications ship.

The CHICAGO had an operational air search radar (CXAM No.5) in 1940, as well as a high-power HF water-cooled transmitter (TBA Xmitter as exciter for an amplifier known as TBB) for CW only.

Dave was also a sonar CW operator for a bit. This was used to communicate with US submarines.

Continued on Page 21

"ALWAYS KNOW WHEN THE S.O.S IS ON - ME FEET TICKLE."



ADVENTURES OF A BRASS POUNDER

After finishing radio school in Boston where I received a second class license in 1923, I signed on the SS Stephen R. Jones (WJGX), a coal carrier. The company went bankrupt shortly thereafter, upon which I obtained a berth on the MV San Jose (GF2Q) which carried two radiomen. The San Jose, under the British flag, was chartered by the United Fruit Co., the Great White Fleet. After a few trips to Central American ports, I was transferred to a larger ship, the MV San Benito (KDJ), also in the banana trade. It is interesting to note that the San Jose was sunk by a German U-boat during WW2. I have no information about casualties.

After a rather short sojourn at sea, the itch to be a landlubber again impelled me to become a Morse telegrapher for Western Union and Postal Telegraph Companies in various cities, one of which was Worcester, Mass. where I was with Postal for a time until an opening occurred at station WTAG. In those days the commercial ticket was accepted for broadcasting as the operator was required to listen at stated intervals for marine SOS calls.

After sixteen years at WTAG I moved to WLW affiliate WSAI where I remained for about 23 years before retiring.

With the move from Worcester to Cincinnati my ham call changed from W1BNL to W8ZLU which is still going strong on all bands through ten meters.

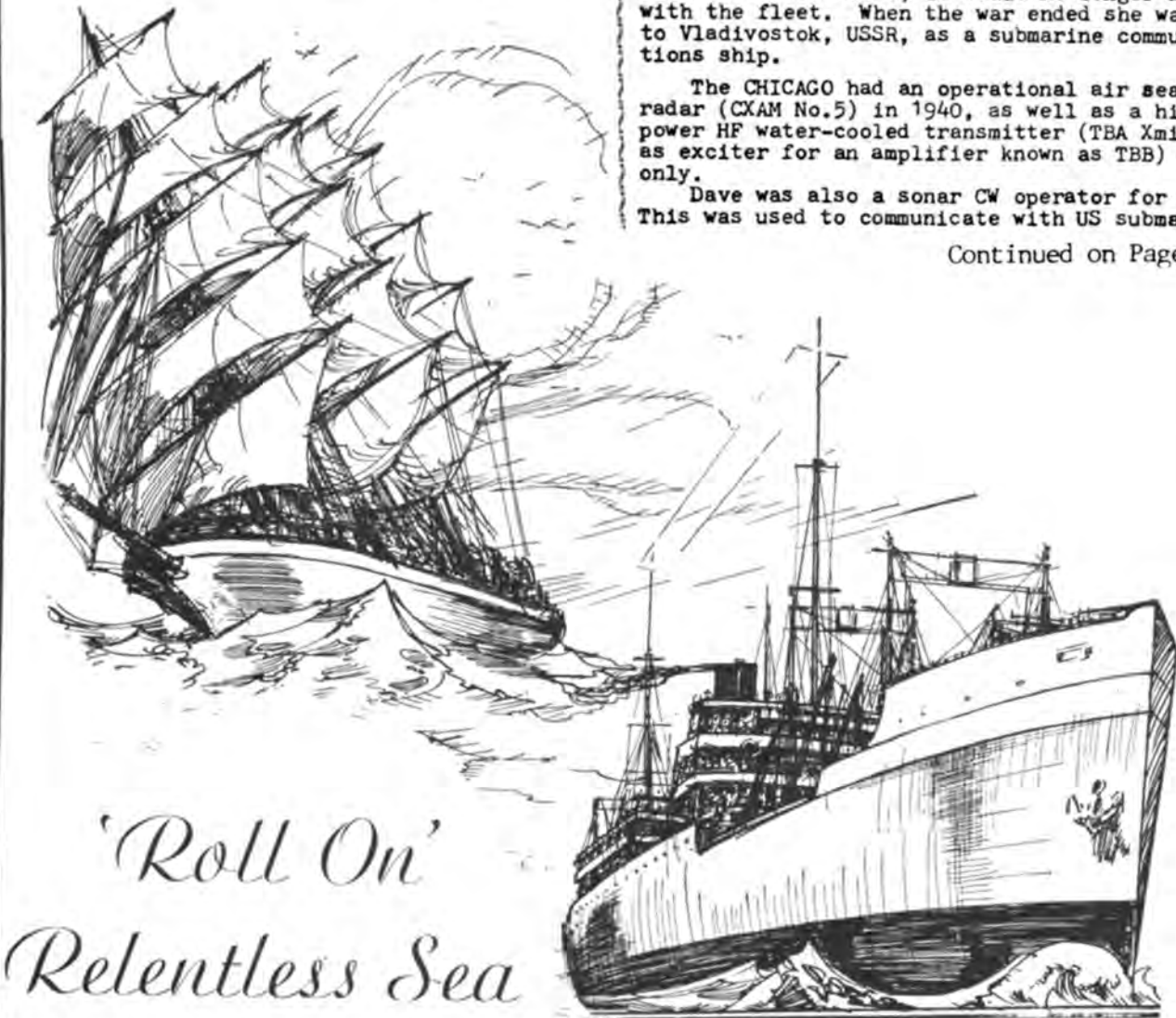
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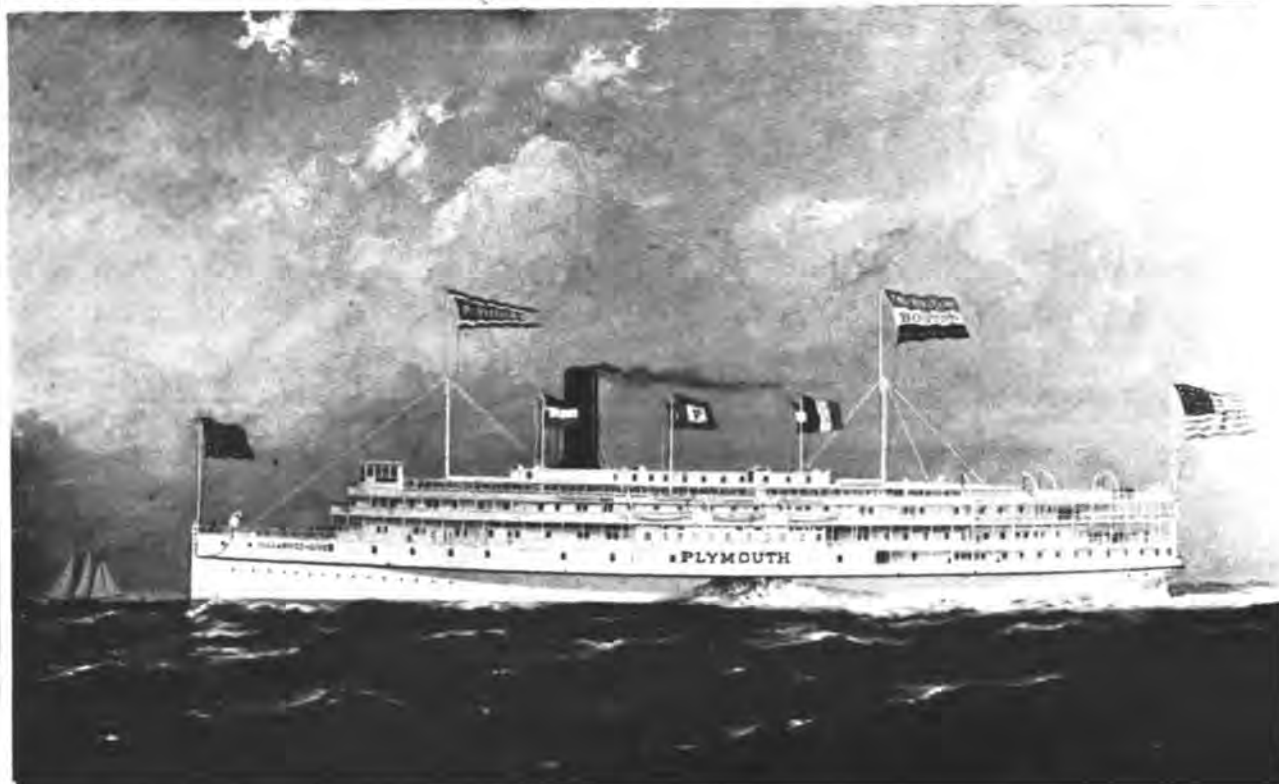
Join the Buckslip Club

---Communicate!



'Roll On'
Relentless Sea

THE FALL RIVER LINE STORY



Fred Pansing

STEAMBOAT "PLYMOUTH"



BY - RAYMOND J. GREEN

395—SSGP

Hello, Bill Breniman and my many SOWP friends. I am going to write you another of my memory stories similar to the TRT banana boat story you printed in the POC 1973, only this one will be five years earlier. The year is 1913. I was sixteen years old, the youngest of a broken quarrelsome family living up town on Washington Heights New York City, now referred to as the suburban getto of Harlem. A senior at Stuyvesant high school and not doing very well. It was a lovely warm October afternoon and I was walking across the Brooklyn Bridge. In my left hand was a carefully rolled up first class wireless telegraph license which I had passed an examination for at the Brooklyn Navy Yard at Sands Street, Brooklyn, much to the credit of teaching by Frank Knockel who was a prominent wireless amateur living in the same flat house I did. Yea, my friends, I was far from the proverbial "Bare foot boy with cheeks of tan," a typical big city product.

As I walked across the bridge my eyes settled on the big United Fruit liners and the sleek black painted Ward Liners. "Some day, I said to myself, I'll be a wireless on one of them." Crossing the bridge and arriving at New York City's hall bark, I decided to stroll down to Fulton Street to No. 24 to the Electro Importing Company store and pick up a copy of "Modern Electrics" edited and published by Hugo Grensback. It was about the most up to date wireless magazine to be had those days. In the window of four panes of glass was displayed a pair of Brandes light weight headphones priced at \$13.00 a Murdock variable condenser, several crystal detectors and an electroletic detector, a Clapp Eastham rotary spark gap and a two slide loose coupler wound with green silk wire.

A cup of coffee at the Fulton fish market oyster bar and a donut, and I weaved my way across West Street, which was heavily trafficked with horse drawn trucks. Ducking the West Street horse drawn trolley car, the noise of horses hooves on cobble stones was deafening. Before me a long pier front rose, PIER 14, and in big bold white letters "THE FALL RIVER LINE," and under this in smaller letters, "The New England Steamship Co."

Stepping into the office where I was drawn by the sound of Morse telegraph sounders and relays, I saw a fellow with black curly hair, a green visor, and sleeve protectors on his arms. He was sitting at an old Oliver typewriter with his ear close to a Morse sounder in a sounding box with a Prince Albert tobacco can jammed in it to make a certain sounding effect. He was copying a message. When he got finished he came over to me and said, "What can I do for you, young fellow?" He had real dark brown eyes with a merry twinkle about them. I asked him if I could apply for a wireless operator's position on the Fall River Line boats.

The "Deacon" Meets George Cole

He said, "Oh, yes, but you will have to see George Cole and he is down on the Mohican putting the finishing touches to the wireless set on board."

"Can I just walk down to the boat?" "Sure," he said, and pointed the way. I walked down the long pier jammed with bales of cotton, and more arriving on trucks from the Morgan Line ship at pier 34 up West Street.

I arrived at the cargo ramp, did not see any gang-plank so I stepped aboard, a man with a uniformed cap with "Mate" on it, asked me what I wanted, and I said to talk to Mr. Cole. He thought a moment and said, "You must mean that wireless man", and pointed to a stairway to the upper deck. Once on the top deck I saw a neat four wire antenna running from the smoke stack to the short flag pole on the stern of the steamer. I followed the lead in to the wireless room. Soon I was standing before an open door labeled "Wireless Room." A pair of long legs were extending from under the operating table. I said, "Mr. Cole?" "Yes," was the reply. "I would like to speak to you a minute." My heart was pounding.

"Just a minute. A few twists of this lead and I will be finished under here." George Cole pulled himself out from under the table and stood his full six feet three inches. "Yes," he said, "what is it?" "I am looking for a wireless position," I said. "Have you got a license?" and I handed him my brand new license. He unrolled it. "Ah," he said. "You are a brand new operator, eh?" "Yes, sir." "Yeah, the ink is hardly dry, and I see Gunner Tucker's USN signature on it." "How much do you know about a wireless set?" "I have been a wireless amateur for five years, a ford spark coil set with a two slide tuner." "Huh, the usual start," said Mr. Cole. "Mr. Frank Knockel taught me all I know." "Oh, you know Frank Knockel?" "Yes," I said. "He is a great friend of Harry Earl the morse operator up on the end of the dock." Here cemented a great and long friendship between Earl, Cole and Knockel and myself.

"You want a job you say?" "Yes, sir, very much." "Can you sail out tonight, say in about four hours for New Bedford, Mass. on this steamer?" I was taken aback and in a trembling voice I said, "Yes, sir." "OK, I'll finish up this transfer of equipment and show you how to start and stop it, send and receive. But first come with me," and he took me up to the pilot house and into the Captain's quarters. "Captain Snow here is your wireless operator." Captain Snow turned around and I never saw a sterner face in my life. He had snow white hair and long mutton chop sideburns and the most steeley blue eyes I have ever seen. He eyed me up and down but said nothing. He nodded to Cole and

said, "Instruct him in what his duties are" and turning to me he said, "We eat at 5 p.m. Be in the mess room and I will acquaint you with the rest of the officers," and turned away. So my friends, a wireless operator was born that October 1913. I never went back home to live, only to visit. Three meals a day, a dry bunk to sleep in, and thirty dollars a month pay, a fine job back in those days.

For the record, my two brothers, ten and twelve years older, worked at the Metropolitan Life for fifty cents an hour, a 48 hour week. They brought home \$24 a week, a white collar job. My sister, thirteen years older, worked at Wannamakers from 8 a.m. to 6 p.m., 54 hours a week and earned \$14 a week. Oh, well, a big schooner of beer cost 5¢, a good cigar 5¢ with free lunch. So?

Here suddenly I found myself free of all the gripes, real or imaginary of the typical teenager of any period of living.

Massie Wireless Telegraph Co.

In 1913 the Massie Wireless Telegraph Company being reorganized, emerges as the National Electric Signal Company. Its president, H.M. Kintner of Pittsburgh, John V.L. Hogan, General Manager and Chief Engineer, George E. Cole, personnel, manager of operators, installation and maintenance, offices pier 14, North River.

Stations - 1913

Three coastal stations and fourteen Long Island Sound steamers equipped; WCG located on the roof of Bush terminal dock, Brooklyn, in a penthouse, two tall lattice self-supporting towers with extending yard arms at their top. A corner of the penthouse partitioned off was the receiving and operating room with several types of crystal receivers, and one in particular consisting of a variometer in the antenna primary circuit and capacity coupled to the tapped secondary, tuning from 200 meters up to 1000 meters, and long single slide tuning coil to be switched in for MCC south wellfleet Mass., WSL Sayville, L.I., or Arlington NAA Virginia. It tuned very sharply, a series of detectors, electrolytic (whoolston wire, platinum wire coated with silver and drawn out as thin as a human hair, an inch of this, set screwed in place and micrometer adjusted to dip into a carbon cup with sulfuric acid, the acid eating away the silver leaving a pinpoint of platinum, this with a local battery resulted in a very sensitive wireless spark detector. Then there was a perikan detector, iron pyrites and zincon, then silicon, galena, and lastly a sensi-

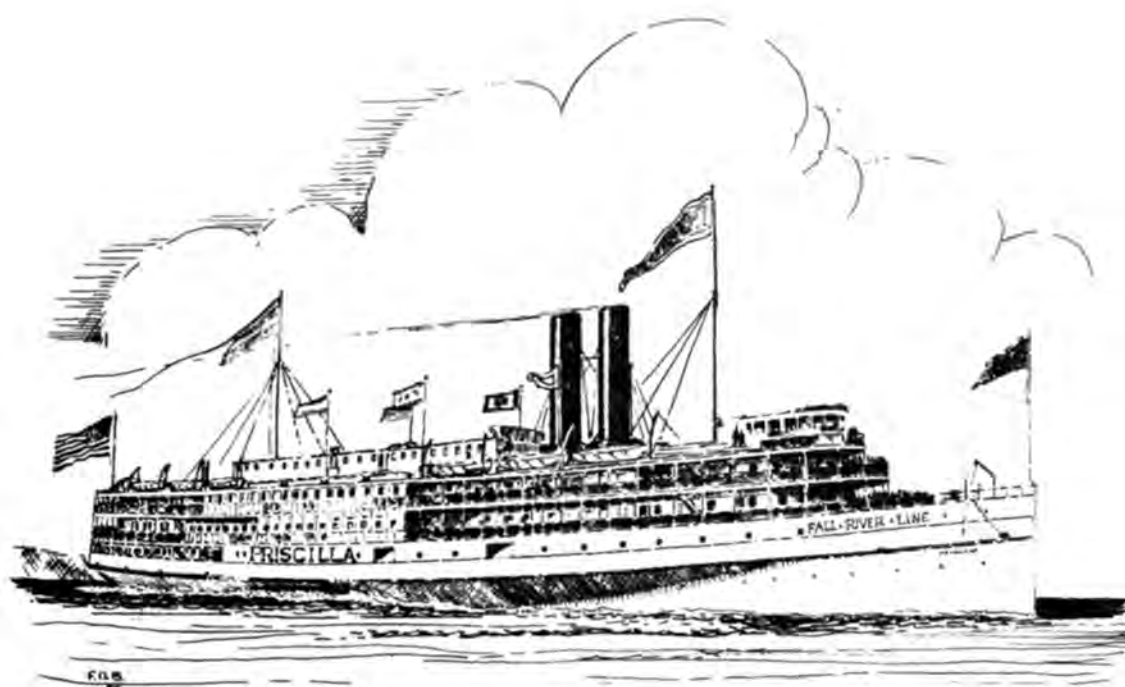
tive piece of carborundum clamped between two brass strips, also operated with a local battery supply. This latter detector was not quite as sensitive as the others but was a favorite account of its staying in adjustment. All of these detectors were on a hard rubber base with suitable switching arrangement. The usual antenna send receive switch and typewriter and filing shelves made up the receiving part. Outside the partitioned portion was the 2 KW synchronous fessenden 500 cycle motor generator and gap mounted on shaft end, compressed air condensers, helix. This all similar to the TRT ship transmitters of the time. The operators in charge were Mr. Wallace and Mr. Vosberg.

Now we come to W L C New London, Conn., a 150 foot lattice tower with a slanting four wire antenna. This station was installed with a standard United Wireless 1 KW non synchronous 240 cycle rotary spark gap, the usual green silk covered wire loose coupler receiver I believe known as the type "E", with the usual crystal detector. Brandies light-weight navy headphones, typewriter were all housed in a small shed on pier located on the Thames River. Mr. Black was in charge. He worked a long time and finally came up with the most pleasing musical note that made WLC famous up and down the Atlantic coast. It really was outstanding. He was the watch dog of the fleet.

Now we come to the third shore station, WCI Fall River, Mass. This installation was a ¼ KW set similar to those on the sound steamers including the receiver. The operator in charge was named Nick Carter. After a long night watch he was the one you closed down with--and then turned in after clearing the 'hook.'

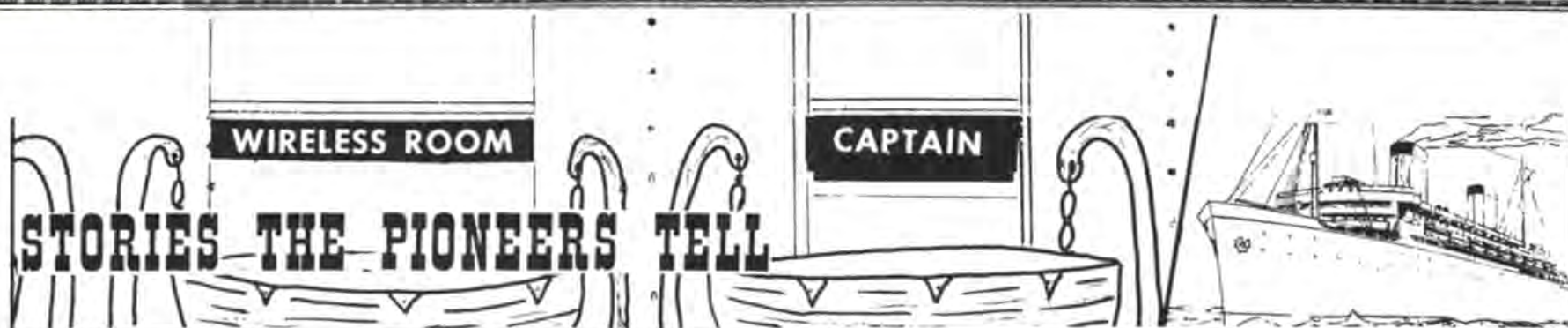
The "K X" Boats

There was a fleet of thirteen or fourteen sound steamers whose call letters all began with "K X." The last letter of the call used the first letter of the steamer where possible. The equipment was all the same and easily interchangeable by Mr. Cole which was quite often and on short notice. The transmitters were ¼ kw mounted on a two, possibly three, foot square panel with four copper clad lyden jars and usual helix and transformer on the back. Two, three inch insulators supported the spark gap which was unusual for a special reason: This gap consisted of an insulating tube of mica on which was mounted ten aluminum disks three inches in diameter and one eighth inch thick, separated by one sixteenth inch mica washers one inch in diameter. (This is not to be confused with the then existing Telefunken quenched gap.) On the end of this supporting mica tube was a ratchet and a protruding keeper-shaft which turned the entire as-



The Sound steamer PRISCILLA

Built in 1893 at the cost of \$1,500,000 she was queen of the Fall River Line's Long Island Sound run. An institution, she served 44 years. Red plush carpets and other luxuries made her one of the best known and loved overnight boats on the Sound.



sembly each time you operated the send receive switch one quarter inch--this to keep it burning evenly, the purpose of this arrangement was quietness of operation. In operation it emitted a sort of tea kettle sizzling sound quite softly, but it did emit considerable ozone and power.

The power plant was a small quiet running motor generator, and an emergency twelve volt dynamotor, all neatly mounted in a black box with insulating cover. It operated by means of the usual large snap toggle switches and even had a pilot light to remind you it was on. The reason for all this quiet operation was because most of the wireless rooms were located in line between the passenger cabins or staterooms, so quietness was essential. The receiver was the new capacity coupled variometer in series with the antenna and ground it had three dials, three inches in diameter. It was a neat looking set with four large brass binding posts marked A G Det. On a hard rubber base was mounted two detectors, silicon and carborundum. The variometer was Clapp Eastham, condensers were all made by Murdock and the two pair of headphones were Brandies regular type 2000 ohms. This receiver was supplemented by an external single slide tuning coil for long wave lengths and the Arlington time-tick (seldom asked for). The regular wavelength range was from 200 meters to 1000 meters and it worked very well. I think they were made down at the Bush Terminal station by Mr. Hogan and Mr. Cole and associates.

The "Sound" Steamers

Here are the sound steamers. (Where two are together they run opposite each other.)

Commonwealth and Priscilla
New York to Newport and Fall River
Plymouth and Providence
New York to Providence, R.I.
Maine and New Hampshire
New York to New Bedford, Mass.
City of Lowell and Chester W Chapin
New York to New London, Conn.
Richard Peck
New York to Bridgeport and New Haven
Concord and Lexington (Colonial Line)
New York to Providence, R.I.
Mohican and Pegonnic freighters
New York to all places.

The Antennas on all the steamers were rigged from the smoke stack to the after flag staff and were of the four wire variety. That is my recollection of many years ago. I will try to tell of the operating procedures in the following paragraphs and of the daily trips of this fleet--adding my comments on wireless communication as it existed at that time.

Blue Peter Flies

A good supper at 5 p.m., across West Street for evening New York Journal, dodging thousands of commuters headed for Cortland Street Ferry and New Jersey R.R. So on a clear evening we pull out from Pier 14, spin around and head down the Hudson River, around the battery. You set the pump handle on the transmitter to 750 meters, listen, all is quiet. You call WCG; a quick reply and you send your departure time, received from the pilot house, acknowledged. It is hard here to level with a modern radio man. Imagine it as I remember it. No loud speakers, no amplifiers, no regeneration squeal, no phones or voices, sitting on 600 meters you hear Seagate. (Believe Davie Sarnoff at key then.) That's Coney Island, working the steamer MONROE of the Old Dominion line, DF with Jack Duffey at key, and now and then "NAH" (Brooklyn Navy Yard) booms in with a "Get off, and stay off." He was the boss around NYC in those days. Your steamer rounds the Battery and glides up the East River, under the

Brooklyn Bridge. You make the curious observation that the spark signal from a ship off the Jersey coast would build way up, then drop out for a few seconds and suddenly return and fade down again. Up the river under the Manhattan Bridge, Blackwells Island and the big train bridge and Hell Gate and on to Execution Light. Again you call WCG and report passing it as received from the pilot. If you are the last steamer, WCG ok's with a GN and closes down until 5 a.m. in the morning to greet the east bound fleet. The strip of travel from Pier 14 to Execution Light was considered highly accident prone.

Once out in Long Island Sound, you would take a little stroll down the beautiful carpeted and lighted corridors, grand staircase, and public rooms filled with finely dressed men and women. Or you would sit in your wireless room with the headphones half on (one ear) and hear some sweet thing say to her boy friend, "What is that?" and he reply, "Oh, that is that new fandangled wireless stuff you hear so much about these days!"

All this activity was also going on down at the east end of the sound. WCI Fall River, was collecting the departure times from the New Bedford, Providence and even New London. He also closed down after the last steamer passed Point Judith to greet you in the morning. Thus the full fleet is underway about seven large steamers both ways or fourteen in all.

Around midnight we all would be in the vicinity of New London, Conn., and WLC musical note would check and record our time passing him from position reports furnished by the pilots. On a clear night you could see the lights of Long Island and Conn. and all the steamers ablaze with light--truly a beautiful sight. This was a routine activity six nights a week (no sailings on Sunday). Promptly at 8 p.m. you tuned to 800 meters and copied O H X sending press, which was the New York Herald station, owned by Gordon Bennett, located on the Staten Island Ferry Building, Battery Park, N.Y.C. (Fine practice with a pencil at 25 W.P.M.)

All this routine was on a fair weather night and was subject to various disruptions caused by weather conditions or ice, pea soup fog, poor visibility which whipped things into a frenzy at times and put everybody on nerve's edge, as there was very little elbow room, and to lose your vision and rely on whistles, bells, flashes of light, and wireless to tap your way along was really something. I remember the early mornings when all seven steamers were strung out from Execution Light to way down the East River inching along in practically zero visibility. All this sounds stuffy and old fashioned, but back then it was really exciting if not nerve-wracking! There sure was a lot of traffic on Long Island Sound and very few accidents over the 100 years of marine operation. All is quiet now, gone with the wind and fog, as they say, four lane super highway from NYC to Boston and diesel trucks rule the day, the New York Hartford RR (bankrupt in 1935) and the selling of the lovely Commonwealth, Providence, Plymouth and Priscilla in 1938 for scrap put an end to the era. Once again Long Island Sound is for pleasure boats.

The "Lingo" was "Ships"

The lingo on the Fall River Line was steamer not ship. It was right or left, not port and starboard. Up and down not above and below, front and back, about the only deep sea thing around was the green and red running lights. There were no ports but windows with sashes and curtains on rods. The paddle wheels could be operated separately, from each other, with one slow forward and the other slow aft or astern, these steamers could turn in a pinwheel fashion, to watch a steamer back out of pier 14, pose a second, then turn on its center beam, was really something, compared with all the noise and fuss and tugs puffing to get the big Cunarders and French line ships out of dock and on

their way. The Mates were concerned, mostly with bales of cotton, and immigrant care. A square was made for the many immigrants arriving from Europe and on their way to the New England cotton mills. This all has changed and the mills have moved to the south where they grow the cotton.

Yes, the sound steamers were a cozy back door entry for many early wireless operators. Each ship carried three pilots--one of whom was an apprentice. They took the steamers down the sound from light house to buoy, no navigation as at sea, the quartermaster was called wheelsman. The food was excellent at all times. Many of the crew were in their late 60's or middle 70's--sailors from the tall clipper ship days of the Australian grain trade. Captain Albert Snow was a famous record setter in his day, many of the young men were the sons of these old sailors of a previous generation. It is surprising how little of the deep sea talk was heard--the only visible traits were the fancy rope and twine work they did. After all, the only rough sea we ever had was a short strip as you rounded Point Judith. Here in a down east storm you felt a little trouble between Block Island, Narraganset Bay, the New Bedford boats hard going some times. Another thing to remember--we did our sailing from dusk to dawn, you were at dock side during the day and Sundays. I used to sunshine on pier 14 telegraph office for Harry Earl, contrasting to moonshining of today. Not many years passed before this Horatio Alger got deep sea fever--what a surprise and shock but that's another story.

"Flash Back"

As I remember in the year of 1912 a big wireless meeting was held at Bern, Switzerland. All the large countries were represented. There they thrashed out frequency control, call letter assignments, to the various countries, thus: F-France, I-Italy, G-Great Britain, etc., as we know it today. The word Radio emerged and by 1915 the examining of operators, licensing of stations, assignment of call letters, etc., moved from the Navy Department to the Department of Commerce with offices in the Custom House at Battery Park, NYC. Major Krumm was in charge, Harry Sadenwater, and others. Mr. Cadmus at Baltimore, Kolster at New Orleans and later transferring to various cities of the West Coast and Great Lakes, later of Boston. My first license was taken at the Navy Yard, but the second had the names William C. Redfield, Sec. of Commerce, E. T. Chamberlain, Commissioner of Navigation and examining officer was Harry Sadenwater. They were valid for two years only and if you failed to show a sea endorsement for six months period of the two years, you had to be reexamined. The days of "Certificate of Skill" were over. Terms such as C-W were unheard of; it was A1, A2, A3 emissions. The audion had not been invented till later when De Forest put the grid in between the filament and plate of the Fleming Valve.

There were no loud speakers. In fact the captains and others soon let you know that you were off watch when you did not have the head phones on your ears by the snide remark, "Who's on watch"--especially the hard looks from the captains. The term Radio Shack not yet heard--it was "wireless office" or room. Ham not yet, it was Amateur Wireless. "Sparks" not yet--it was Mr. Marconi or just Marconi. The Gold Sparks had not shown up yet. I had "Wireless" in the gold wreath of my uniform cap; some wore Marconi but no Radio Officer yet.

One of the nice things about those days was that you were brand new. There were no old timers standing around sneering at your operations and abilities. As simple as it seems now, then nobody knew anything about it. Captain Snow used to stop in front of my wireless room door, not at my "good evening", pause then slowly stroll down the corridor, his hands folded behind his back and shaking his head.

The "Posh" SS Commonwealth

The morning after my first round trip to New Bedford, about eleven a.m., there was a knock on my wireless room door. "Hello, Ray," says Louis Bear, a sandy-haired hunchbacked fellow with a marvelous sense of humor and wit. "Well, you made it but your sending sure sounded wobbly those first reports. Oh, well, it's all over now. Hey, come on over and let me give you the tour of the pride of the Fall River Line steamers." So we crossed the pier to the S.S. COMMONWEALTH. Gosh, what a

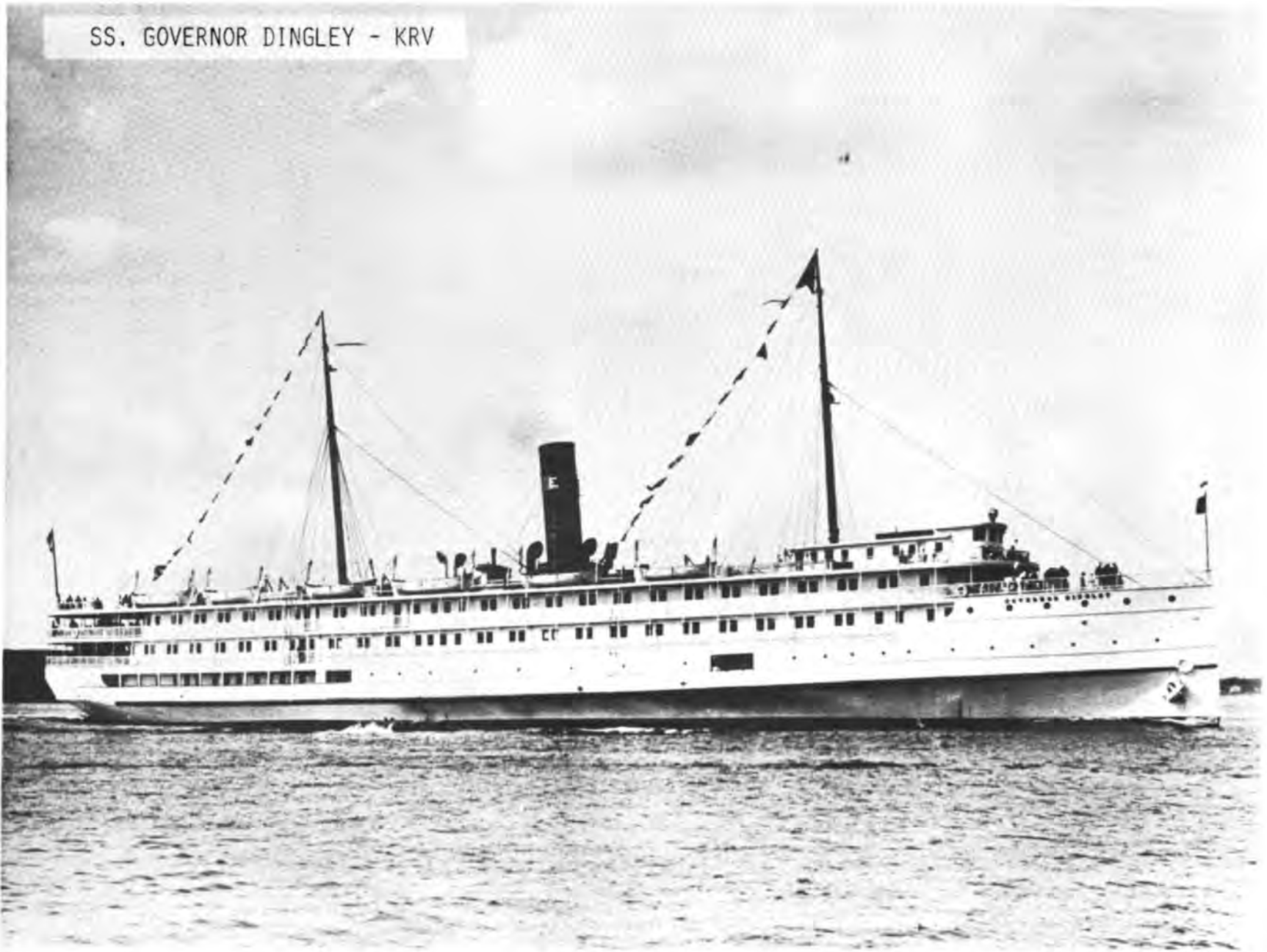


"If that's what you're afraid of we'd better hurry and pass 'em."

sight as I stepped from the canopied plush red carpeted companionway--everything was ablaze with lights. Louis said, "The Mayor of NYC is going to throw a big Tammany Hall political dinner today." The first thing that caught my attention was the sweeping and beautiful mahogany staircase that swept up to the corridors of state rooms and her many saloons. Louis got out a post card with a picture of the ship on one side and on the other in fine print a description and started reading as we went along. It said she appeared on the sound around 1908 and cost two million dollars and she was 456 feet long. Her grand saloon was Venetian Gothic. I was too young to know then that her dining room was in Louis XVI. (Seems I heard about him in my history books.) The cafe was in 16th century Italian but the grandest room of all was her main dining room under three big domes and all glass on the outside. As a poor boy I sure was stunned and even to this day I can't tell you how beautiful it all was. A dance hall and grill in Spanish style, everywhere soft rugs, large roomy chairs and beautiful lamps and lighting effect, and we came to the wireless OFFICE mind you, it was a half door arrangement--the top half swung in along the wall, the lower half became a sort of writing desk. The combination office stateroom measured about eight by ten. On the far end was a mahogany bunk arrangement with four drawers and a clothes locker. When the bunk was made up it had two velvet curtains that tied back on rods displaying a **snow white made up bed and generous pillow** and a cream colored blanket. Talk about comfort! Sure better than anything I ever had at home. Along the side of the wall was the operating table with the gear on it. Louis about ran out reading that post card story and said he had to refer to it because he did not know the names of all those beautiful rooms. I was to make a few trips on the S.S. COMMONWEALTH as relief when Louis had a sick spell.

It is surprising how routine things got to be. Rounding the Battery, thence under the East River bridges through Hell Gate to Execution Light and on out into the sound. Many nights when the weather was clear I would go down to the cargo deck where the bales of cotton were so arranged in a clear square to make a bed on. There would be fifty to a hundred immigrants fresh from Ellis Island and Europe. Fathers, skilled weavers and leather workers, mostly from the Polish Corridor bound for their new country and jobs in the New England cotton mills and the Boston shoe factories. Each had his name and number of his family tied to his lapel and where he was headed. The women and children gathered together. They were comfortable bedded down with their own bedding. It was warm and plenty of good food served, cooked and made by themselves. We were all very kind to them. There were lots of bread, milk and cheese; good toilet facilities; maybe some of them are still alive and will remember. None spoke English.

Parallel to the speaking tube from the pilot house there ran a pair of annunciator bell wires than rang a call bell. In addition to the tea kettle whistle on the speaking tube. I soon contrived it so that by connecting my receiver phone posts to one end I could go up to the pilot house and connect my phones and stand watch. Signals were just a little down but on 600 meters I sat in the dark back of the pilot house and listened to many stories and the pilot lingo on clear nights at certain hours because on a foggy night you sat close to your set. As I have said before, when you removed your head phones you might as well be ashore or in your bunk asleep. The entire range of the wireless was not normally more than fifty to one hundred miles. I used to listen to the transatlantic liners working Siasconset and Seagate and the coastwise steamers and the fleet at New Port, all on a crystal detector.



FURNISHED BY OUR LATE MEMBER, CAPT. EDWARD N. DINGLEY, JR USNR/RET. 625-SGP

A Memorable Occasion

One week end Mr. Cole sent me down to the Bush Terminal penthouse station with instructions to stop at the restaurant up on 36th and 4th Avenue and pick up two good sized baskets of food. I would have to make two round-trips, five long blocks and eleven flights of stairs, arriving with the second load, Mr. Cole, Wallace, and Vosberg were preparing luncheon, setting improvised tables. I was to be the waiter and handy errand boy. They all were much older than I. Soon the guests arrived and I am going to write down their names for posterity. They were all pioneers of wireless--Ellery W. Stone, Fessenden, Nickla Tesla, Professor Pupin, Professor Goldsmith, Admiral Bullard, Greenleaf Pickard, Pierce, J.V.L. Hogan, Kintner, Alexanderson, and others. No deForest or Armstrong as I remember. After the greetings and welcoming, they settled down to serious talking and setting up some kind of organization. I have often wondered if it was the beginning of the famous Institute of Electrical Engineers or I.R.E. Anyone recall?

Prelude to History

These were the days before four lane super highways and diesel trucks and there were several flourishing coastwise steamship lines. Two Canadian boats. The STEPHANO sunk by German U-53 submarine off the Newfoundland coast. Then there was the S.S. NORTH- LAND and S.S. NORTHSTAR. (Portland to NYC out side run). The "Bunkerhill" and "Massachusetts" (Buz- zards Bay Boston to NYC). The Old Dominion line with the S.S. MONROE and sister ship. The merchant miners line out of Providence and such ships as the S.S. DORCHESTER, NARRAGANSETTE, etc. The Clyde Line, the Mallory Line, the Morgan Line with a big fleet coastwising. The Red "D" Line with the Car- acus and Maricabo. The Ward Line with its fleet, then the Intercoastal Line, the Luckenback Line and the American Hawaiian. These were all jobs for early wireless men. I sailed on many of these ships. There were two fast ships built by Jim Hill of Great Northern Railroad fame that were to run from Portland, Me., to NYC but were sent to the Eng- lish Channel to transport troops in WW1. They ended up on the California SFO La run, the Yale and Harvard. Jack Duffey, George Cole and Vogal were the men I contacted for assignments.

Epilogue of a "Vanishing American"

If ever there was a cosier, safer, more comfortable steamship line than the "Old Fall River Line, I've never heard of it. It was the birth and starting point of many of the SWP Spark-Gap Pioneers on the East Coast. Most of the things you mention in your "Strange World of Sparks" article (SPARKS-II), were not met up with until as a fledgling I left the nest of Long Island Sound from the paddle wheel sound to the screw propeller vibrations. Don't find too much fault with my memories. After all Pier 14 is gone, across street stands the two trade-center sky- scrapers. I hear a strong coffer dam is to be built from Whitehall Street all the way up to 79th Street, connecting all those long piers extending out into the Hudson. Fill it all in and a beauti- ful park along the west side of Manhattan for its teeming millions. And the old Brooklyn Bridge is resplendent with its new coat of aluminum paint. I have lived long enough to see worldwide fleets of ships built, used, scrapped and sunk. And the beautiful Transatlantic liner UNITED STATES decay- ing at her dock at Hampton Roads, Virginia, and the last beautiful liner the FRANCE retiring from the service. A post card from my XYL, "Gently took off Kennedy Airport at 7 p.m. in a 747 Jumbo jet with 308 passengers and crew and just as gently let down at Orly Field, Paris, at midnight, a most en- joyable trip. Yes, there is a 'Communication's Officer.'"

Guess it's time to bid my SWP friends 73. Greet- ings and Hail to the "Communications Officers" of the Boeing 747's Jumbo Jet.

Horatio Alger, you have grown old.

THE VANISHING AMERICAN MARCONI WIRELESS TELEGRAPH OPERATOR

RAY GREEN



The Unique Career of Ellery W. Stone



REAR ADMIRAL ELLERY W. STONE, VICE-CHAIRMAN OF THE BOARD, I.T.T. CO.

A FACTUAL STORY BASED ON RECORDS

BY—FRED ROSEBURY

Maybe he didn't plan his future: Admiral Ellery W. Stone thinks his career was largely due to a "series of freak happenings," as he says, yet it looks very much as though the working rule of his life had something to do with it: "DO MORE THAN ANYONE HAS A RIGHT TO EXPECT OF YOU: IF YOU ONLY DO WHAT IS EXPECTED, YOU ARE ONLY AVERAGE."

S.S. QUEEN LAUNCHES CAREER

Ellery started as a ham in 1908 or 1909 when he was a high-school student. In 1910, when he was sixteen, he tuned in one day to the 600-meter band and to his surprise he heard a distress call (CQD or SOS) from a coasting vessel, the *SS Queen*, bound for Eureka. As there was no response from anywhere, after a few minutes, he went to the phone and called the San Francisco maritime station "PH" (now KPH) and then the U.S. Coast Guard. Later he phoned the Oakland *TRIBUNE* to find out what happened, if anything. He learned that the ship had been rescued by the Coast Guard and all hands were safe. The editor wanted to know who was calling; when Ellery told him it was he who had notified "PH" and the Coast Guard, the editor asked him to stop in on his way to school next morning to be interviewed and to have his picture taken.

The Early Days

His first transmitter was a 1/2-kw spark which he built in his home at 317 Lee Street, Oakland, just north of Lake Merritt. The high-voltage transformer, wound by himself--the "pig" as he called it, had its secondary insulated with melted paraffin. The condenser was built up out of Belgian plate glass with tinfoil sheets cemented to the glass with white of egg.

For the receiver, his first detector was carbon and needle, from which he went by stages to various types of electrolytic devices, then carborundum. Some of these required a local battery. This was followed by silicon, galena, and at last a De Forest "Audion," a gassy "soft" tube, invented only a few years earlier, a tube that would go blue if the B-battery was more than 45 volts. He found a temperamental glassblower, specializing in the repair of x-ray tubes, who repumped his Audion down too hard.

Since there was no amplification beyond the detector stage, a thermionic tube had its greatest sensitivity just short of this blue ionization point. Ellery and a ham friend, Palmer Hewlett, who lived on a farm at Hollister, California, found that when the tube was warm it became more sensitive. They figured the heat was driving occluded gases out of the tube elements and the glass walls, thus reducing the degree of high vacuum. They mounted the Audion head downward in a glass beaker of oil under which they had a spirit lamp with an adjustable flame. By controlling the temperature of

Honorary



Member

The honorarium of "HONORARY MEMBERSHIP" (#12) has been conferred upon Rear Admiral Ellery W. Stone by the Society of Wireless Pioneers, Inc., for the remarkable achievements he has brought to the world through a lifetime of preeminent leadership in many fields, including military, civil government, and business.

He has authored books, especially one on the fundamentals of wireless that was outstanding in its field and used as text in early years by those interested in communications. He served with distinction in a most difficult position as Chief of the Allied Commission for Italy after World War II and has received the highest awards of many Nations. Admiral Stone was sponsored by Eben K. Cady, Past President of the Society.

the oil precisely they were able to get maximum sensitivity. They also found they could "soup it up" still further with a U-shaped magnet from a discarded car magneto. In exactly the right position this magnet deflected the electron stream between the filament, grid and plate, to obtain an absolute and critical maximum of efficiency, so necessary for DX reception without amplifiers.

Today, we are so accustomed to the use of superheterodyne and multistage amplifier circuits that it is hard to conceive of getting along without them, and it is really amazing what sort of long-distance communication Ellery Stone and his fellow hams were able to achieve in the early days.

When Ellery was seventeen he designed a rotary quenched gap which Haller Cunningham on Lower Market Street in San Francisco made up for him. He found that he could get a Poulsen-arc effect by dripping alcohol on the sealed-in spark gap!

Station licenses for hams were of course not required in those days, and not for any shore stations either, except those like "CH" or "PH" which worked ships. The wavelength of his rig was probably in the neighborhood of 700 meters (no one used kc. then except a few people in the Navy and the Bureau of Standards). His call "LK" he says, "had a nice rhythm, and still has."

In 1913, Ellery was admitted to the Bay Counties Wireless Telegraph Association of California. The secretary, L.M. Clement, gave him the theory and code tests at Clement's ham station - tests which were far more difficult than the First Grade Operator's exam Ellery himself gave later to aspiring ship operators. But he passed it with flying colors; it gave him the privilege of having an "S" call: that is, his call became "SLK" which had an enhanced rhythm.

The First Job

The US Ship Act went into effect in 1910 and Ellery got a Limited Commercial station license for his ham outfit, and a Commercial Operator's license for himself, December 13, 1912. R.B. Woolverton became the Radio Inspector in the San Francisco area, as did W.D. Terrell in New York. The Radio Division, then under the U.S. Department of Commerce, was almost immediately inundated with a large number of applications for operator and station licenses because of the Act, for ship, maritime shore stations and hams. Finding himself unable to handle this flood of paperwork, Woolverton got permission to hire an assistant for thirty days. This was in early 1912. Ellery, then a student at the University of California, obtained leave from his classes and was taken on as a paid employee, conducting operator exams for ship billets. Woolverton, as Radio Inspector, signed the tickets of the successful candidates. Ellery received \$80 for that month, his first paid job!



Colonel Mario Infante, R.I.A.F. and Ellery Stone in the New York marine control room of Mackay Radio and Telegraph Company in July, 1933, while monitoring the flight communications of the Balbo seaplane expedition that month.

Covering the Water-Front

In 1914, Ellery Stone was appointed Assistant Radio Inspector, with a starting salary of \$100 a month. This was raised to \$110 in 1915, and to \$120 in 1916. As assistant radio inspector, he did all the inspection work aboard ships and in shore stations. He boarded every wireless-equipped ship which came into San Francisco harbor, sometimes lugging upwards of 40 pounds of test equipment: wavemeters, antenna ammeters, decremeters, etc. He gave exams to ship and shore-station operators and hams, and was authorized to issue licenses over his own signature. He tested all ship transmitters to measure their antenna current and their logarithmic decrement, and tested the signal strength by working with shore stations at various points. All shipboard emergency equipment was required to have a range of at least 100 miles in daylight on 600 meters, so Ellery took a trip on a lumber schooner to and from Eureka (225 miles) to test the transmitter with KPH and the Eureka station. Subsequently he went on an overnight run of the SS Yale which made daily trips between San Francisco and San Pedro. His personal call or sign in those days was "RI" for Radio Inspector.

There can be no question that, if nothing else, these trips as Assistant Radio Inspector eminently qualify Admiral Stone for the Senior Spark Gap Pioneer rating in the S.W.O.P., to say nothing of his previous and later illustrious accomplishments.

World War One

On March 16, 1917, when Ellery was only 23, he was commissioned a Lieutenant (j.g.) in the U.S. Naval Reserve by Captain E.H. Dodd, U.S.N., the Pacific Coast Communications Superintendent (PCCS) at "Goat Hill," and ordered to active duty at NPL, San Diego, on April 6, 1917, which was the day the United States entered World War I. Within two months he was made District Communications Superintendent (DCS) of what is now the 11th Naval District (then the southern half of the old 12th Naval District), and Officer-in-Charge, U.S. Naval Radio Station, San Diego. The transmitter, a 200-kw Federal arc at Chollas Heights, was operated by Gunner H.L. Rodman under Lt. Stone; the receiving station was at Point Loma where Ellery had his office and later, a house. He served there until 1919.

Scores in business field.

When Ellery was first released from active duty in 1919, he became California manager for the well-known firm of Kilbourne & Clark of Seattle, who supplied and maintained radio equipment and provided operators for one-third of the United States Shipping Board ships built during WW-I.

In the early days when Ellery had his own station, he was able to send 40 w.p.m. with a bug, and to copy at least 35. He also used a side-swipe key which gave operators a chance to express their own personalities a little more than with a bug. There is no doubt in the minds of many old-time operators that there is definitely a kind of musical rhythm in the Morse code which experts like Ellery Stone were able to demonstrate. To quote him, "I always felt the mechanical perfection of a bug has more elegance than warmth or heart." On his ham rig Ellery always copied on a mill from the beginning of 1913, when he bought the machine which he afterwards also used for his college papers.

After his service with Kilbourne & Clark, he became General Manager of the Moorhead Laboratories and of Lee De Forest, Inc. of San Francisco, and in 1922 he became manager of the Radio Department of the Pacific States Electric Company, a General Electric subsidiary on the Pacific Coast. In 1924, at the age of 30, Ellery Stone was named President of Federal Telegraph Company of California and came to the International Telephone and Telegraph Corporation when Federal Telegraph was acquired by ITT in 1931. Subsequently he held various executive positions in the ITT system. Among them were: Executive Vice President, Mackay Radio & Telegraph Company; President Postal Telegraph-Cable Co. until its merger with Western Union Telegraph Co. in 1943; ITT Regional Vice President for the Middle East in Cairo, 1947-1948; President, Federal Telephone & Radio Corporation, 1948-1949; President, American Cable & Radio Corporation, and subsidiaries, 1950-1958; ITT Group Vice President of Defense Activities, 1959-1961; and President, ITT Europe, Inc. at Brussels, 1961-1965. At the time of his retirement in June 1969 after completing 45 years of service in the ITT system, he was a Vice President of ITT, Chairman of the Board of American Cable & Radio Corporation, Vice Chairman of the Board of ITT Europe (Brussels), and Director of various American and European ITT subsidiaries. He was a Director of ITT from 1948 to 1968.

The "Crociera Transatlantica" Operation

The "Crociera Transatlantica" Operation. In 1933, twenty-five Italian seaplanes of the Savoia-Marchetti S 55 X type under the command of General Italo Balbo, the Italian Air Minister, made a transatlantic flight from Rome to Chicago and return by way of Amsterdam, Londonderry, Reykjavik, Labrador, Nova Scotia, Montreal, New York, the Azores, Lisbon, and back to Rome. Each 11½-ton flying boat was powered by two 880-horsepower Isotta Fraschini 12-cylinder engines, and had a crew of four (in some cases, five) members of the Royal Italian Air Force.

Ellery Stone, then a Lieutenant Commander in the U.S. Naval Reserve and Vice President and Director of the Postal Telegraph-Cable Company, was selected by the late Mr. Hernand Behn, President of ITT (of which Postal was a subsidiary), to organize a widespread and comprehensive radio, cable and telegraph network in cooperation with ITT, the Italian government, and the military and civil authorities of the various nations which provided landing sites, repair and refueling facilities, and weather data for, and over whose air space the squadron was to fly. At the time, regular commercial communications were at best only seasonal and sporadic at certain places along the flight route, while at others there existed no communication facilities of any kind.

Plans were evolved under the direction of Lieut-Commander Stone for providing and assuring reliable, round-the-clock two-way radio contact with the squadron, also fast and accurate weather reports over a wide area including those from ships at sea. These reports were to be transmitted to the U.S. Weather Bureau at New York for accurate forecasting by Dr. James Kimball, a foremost authority in transatlantic flight meteorology. These forecasts were then to be transmitted periodically on frequent schedules to General Balbo in the flagship. The Mackay (New York Area) radio station WSL was to be in continuous contact with the squadron throughout the expedition. Various other fixed stations were involved in the flight communications, for which purpose a thorough pre-flight study was prepared with regard to atmospheric, magnetic, and electrical conditions at all hours of the day and night over the entire route, to determine optimum radio contact.

The huge seaplanes took off from Orbetello, north of Rome, on the morning of July 1, 1933, for the United States; and on the return landed at Ostia, west of Rome, shortly after noon on August 12, after covering in mass formation a flight of 12,000 miles, the most remarkable feat in the history of aviation up to that time.

It is of interest to note that a commercial organization was able to provide perfect communications in the execution of a problem which was handled and directed by Ellery Stone and his staff, most of whom were Naval Reservists or had other military service, and that this was organized and executed as a military task. The mobilization of all the communications operations was handled smoothly and efficiently without in any way affecting the Company's normal commercial traffic.



Naval Career of Admiral Stone

Admiral Stone's naval career began in 1917, and he advanced through grades in the Naval Reserve to Rear Admiral in 1944. As a Captain in 1943 he served as Chief of Staff to Vice Admiral William Glassford, U.S.N., head of the American Mission at Dakar, French West Africa. In 1943, immediately following the Italian surrender, he was appointed a member of the Allied Military Mission to the Italian government at Brindisi, and was appointed by the Allied Combined Chiefs of Staff as Chief Commissioner of the Allied Control Commission in Rome and Chief Civil Affairs Officer of Allied Military Government in Italy from 1944 until 1947.

Ellery Stone was decorated with both the Navy and the Army Distinguished Service Medals. He was the only reserve officer in either service in WW-II to receive both. He was also awarded the highest Italian decoration, and to top all that off, he was "knighted" by George VI at Buckingham Palace where he received the K.B.E. (Knight Commander of the British Empire). If he were a British subject his title would be "Rear Admiral Sir Ellery Stone," and his wife would be "Lady Stone." Be that as it may, Admiral Stone today indicated that he considers it a still greater honor to be a member of the Society of Wireless Pioneers as a Senior Spark-Gap Pioneer! And the Society is more than honored to have him as a member.

Chosen Chief Commissioner

Allied Military Government of Italy following surrender

He was chosen by General Eisenhower's staff in Algiers to go into Italy to take over the civil communications as soon as Italy surrendered in 1943. Ellery's chief at the time was a three-star British General, Mason MacFarlane, who took a liking to him, and with the approval of the Combined Chiefs, made him his deputy. When General MacFarlane was invalided home, Harold Macmillan, later Prime Minister, and Field Marshal Alexander, who relieved General Eisenhower when the latter took over the Normandy invasion, asked Ellery if he would assume the job of Chief Commissioner of the Allied Military Government of Italy (a country of 47 million people):

"Do you think you could take it on for us?" Ellery remembers Macmillan asking him.

And Ellery replied at once, "Of course, sir." He was only a Captain then but they were sure he would be made an Admiral. He was - after a delay of six months. The Navy had to jump him over 600 regular captains to do it!

All in all, the only job he ever went after was that of Assistant Radio Inspector in the old days.

"Isn't it strange," he says; "every other job came to me out of the blue by a series of freak happenings that long ago convinced me not to try to plan my future. The Lord was taking care of me beyond anything I could ever dream of."

Admiral Stone feels that his reason for wanting to be a member of our Society (should he need a reason!) is that all the foundations of his later career were based on the dreams and ambitions he had as a boy - dreams and ambitions which have come flooding back to show that everything he ever did was to prepare him for his two great roles in the communications art and in the Navy.

(CONTINUED TO PAGE 28)



Ellery Stone has just been awarded the Commander of the British Empire decoration by Admiral Sir John Cunningham, R.N. Ellery's right hand is slightly blurred from returning the salute of the Royal Marine Guard of Honor just after the medal had been hung around his neck. When he was later "knighted" by King George VI, he received the same neck decoration and a plaque or star which is worn on the left breast. The men in the background are American and British officers, headed by General Matt Ridgway, U.S.A. and Rear Admiral Jules James, U.S.N. The villa or palazzo was formerly owned (c. 1790-1810) by Sir William and Lady Emma Hamilton, whom Admiral Lord Horatio Nelson used to visit there. - CONTINUED - NEXT PAGE -

(CONTINUED FROM PAGE 1C)

ADMIRAL ELLERY W. STONE



Honors & Decorations

In addition to the U.S. Navy and the U.S. Army D.S.M. and the British K.B.E., Admiral Stone has the following decorations: Grand Cross of St. Maurice and St. Lazarus and Grand Officer, Crown of Italy; Grand Cross of San Marino; Cross of Merit, First Class with Crown, Knights of Malta; Officer, Légion d'Honneur (France); Commander, Order of Leopold II (Belgium); Commander, First Grade, Order of Isabella The Catholic (Spain); and the Campaign Medals of World Wars I and II. He is Vice-Chairman of the Board of Trustees of the Society for French-American Cultural Services and Educational Aid, New York.

Admiral Ellery W. Stone is a Fellow of the I.E.E.E., and of the Royal Society of Arts (England), and a member of the U.S. Naval Institute. He is the author of technical papers in the Proceedings of the I.R.E. and the I.E.E.E., and the U.S. Naval Institute Proceedings, and of a book: "Elements of Radio Communication," which has gone into three editions, the latest, 1926, published by D. Van Nostrand & Company, New York. The first edition of this book grew out of a series of blueprinted lectures (there were no Xerox machines in those days) which Admiral Stone (then a lieutenant) gave in 1917 and 1918 to aspiring Navy radiomen at NPL.

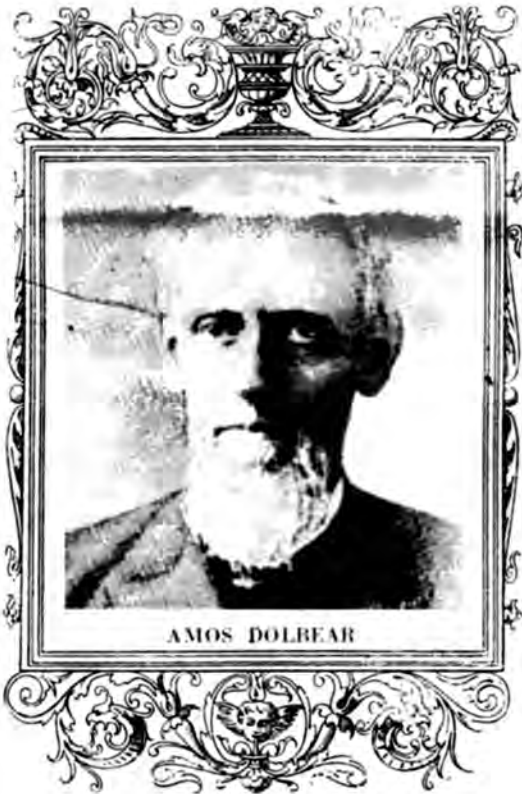
He retired from the Navy in 1958, after 41 years of naval service.

Material for parts of this article has been taken (with the Admiral's permission) from his paper "Communications for Italian Transatlantic Flight," Proc. U.S. Naval Inst., 60, No. 378 (August, 1934), pp. 1121-1136; and from "International Communications - Past and Future," a talk given by the Admiral before the New York Chapter of the Armed Forces Communications and Electronics Association, November 30, 1960.

--Fred Rosebury



Amos Emerson Dolbear



1837 1910

BY PROFESSOR HERBERT J. SCOTT

Professor Amos Dolbear - did he invent and demonstrate a system of wireless, even before the famous experiments of Hertz? Let us see what the musty and yellowed pages of history can tell us about this man.

Amos Emerson Dolbear was born in Norwich, Connecticut on the 10th day of November in 1837. His parents died when he was very young, whereupon friends of the family raised him on a farm in New Hampshire.

Later, in desire of an education, he entered Ohio Wesleyan University. Following this he studied mining engineering at Michigan University from which he earned the degrees of A.M. and M.E. in 1867 and the Ph.D. degree in 1873.

After attaining his doctorate from Michigan he taught for a short time at a small university, and then later was appointed Professor of Physics and Astronomy at Tufts College in Massachusetts in 1874.

Dolbear was a man with an exceptionally inventive turn of mind. In 1853 he invented what our children use as a toy today - the string telephone. In 1864 he devised the "Electric Writing Telegraph". This he described some years later in the "Journal of the Telegraph" in 1880. His model was submitted to the Western Union Telegraph Company who assured him that there was no future in it. Yet soon after this it was modified by Gray to produce what he (Gray) called a "Telautograph" for Western Union.

It was in 1864 that Dolbear invented what he called a "Talking Machine" which, in principle, was the same as what later became known as the Bell Telephone, and which unfortunately Dolbear put aside until 1876. It consisted of a straight, permanent, bar magnet with a winding of wire around

it and a very thin sheet iron disc near the end of it. This winding was connected through wires to a similar winding on an identical unit, no batteries of any kind being used. The device was used to both talk into and listen with - essentially what we today call a 'sound powered' telephone! This device he unfortunately neglected to patent!

Bell's telephone exhibited in Philadelphia in 1876 employed an electromagnet and required a battery for its operation; otherwise it was very like Dolbear's device in operation. Following a long and bitter court fight, Bell was named by the court as the true inventor.

Then in 1879 Dolbear invented his "Static Telephone" very much like our present day condenser microphone and receiver. Bell sued him on this score and the Supreme Court said Dolbear was an infringer in-as-much as Bell had patented a "new principle" rather than a "new device".

Later Dolbear discovered that the static telephone that he devised could be heard in a receiver even when the transmitter and receiver were not physically connected. The waves from the transmitter could be heard fifty feet away in all directions from the transmitter by as many people as could be provided with receivers with which to listen in. He applied for a patent on this system in 1882, but the Patent Office turned him down on the basis that his device was "contrary to science and would not work". This despite the fact that Dolbear had read a paper on 23 March 1882 in London before the 'Society of Telegraph and Electricians' describing the "Development of a New Telephonic System" and provided his audience with a working demonstration. He transmitted several songs and a coronet solo to a number receivers set up around the meeting hall. This was with no wire connecting the transmitter with any of the receivers. (As a matter of general information, the Society of Telegraph and Electricians was the predecessor of the English 'Institution of Electrical Engineers'.)

At a meeting of the American Association for the Advancement of Science held in Montreal in 1882, Dolbear read a paper on "Telegraphy Without Wires". In this he described a system whereupon he attached his transmitter to a wire supported by a kite some 500 feet up in the air. The transmitting equipment consisted of a Morse key and a spark coil connected directly to the wire and to ground. His signals were heard a few hundred feet away by his receiver (details of which are unfortunately lacking). His receiver was connected between a tin roof and ground. (The ingenuity of mankind knows no bounds!).

He demonstrated his apparatus again at the Electrical Exhibition in Philadelphia in 1884. Finally, however, in 1886 a patent #350,229 was allowed, followed later by patent #355,149.

Certainly his experiments seemingly marked the beginning of radio telephony which actually, in a practical sense, did not assert itself until many, many years later.

Dolbear clearly demonstrated the existence of electric waves in space. It is interesting to note that all this took place at least five years BEFORE Hertz conducted his monumental experiments and when Marconi was but a lad of eight. There is considerable doubt existent that Dolbear had ever heard of Maxwell and his work.

When Marconi was invited by the New York Herald in 1899 to report by wireless the America Cup Race between the Shamrock and the Columbia, Dolbear informed Marconi that he would restrain him in view of his (Dolbear's) patents. However, later, as a matter of courtesy, Dolbear allowed Marconi to report the yacht race without further objection.

In 1899, the first American "Wireless Telephone and Telegraph Company" was incorporated. This company obtained the rights to Dolbear's wireless patents and hired as its wireless engineers Pickard and Shoemaker.

During his lifetime, Dolbear had many inventions to his credit including an electrical gyroscope with which he demonstrated the rotation of the earth; a magneto-telephone somewhat after the fashion of our early day telephone; a coil-type ammeter probably similar in some ways to the D'Arsonval meter, and many other devices.

Had Dolbear received a few more breaks in life, he might today have been credited with inventing the telephone and the radio. In any discussion as to who "invented radio", the name of Amos Dolbear should most certainly be tossed into the ring.

Dolbear lived an interesting, inventive and productive life which came to a close in 1910 when he was 73 years old.

1900 - REPLICA FIRST MARCONI WIRELESS CABIN ABOARD SHIP



Replica of wireless cabin of 1900 constructed for the Marconi Marine Jubilee Exhibition, Baltic Exchange, 1950. Equipment (L/R) two coherer receivers; Morse inker, jigger; Leyden jar condensers and 10" coil extra condenser and 2V accumulators are on the floor beneath the desk. Republished by permission - Marconi International Marine Co., Ltd. H. B. Clayton - photographer.

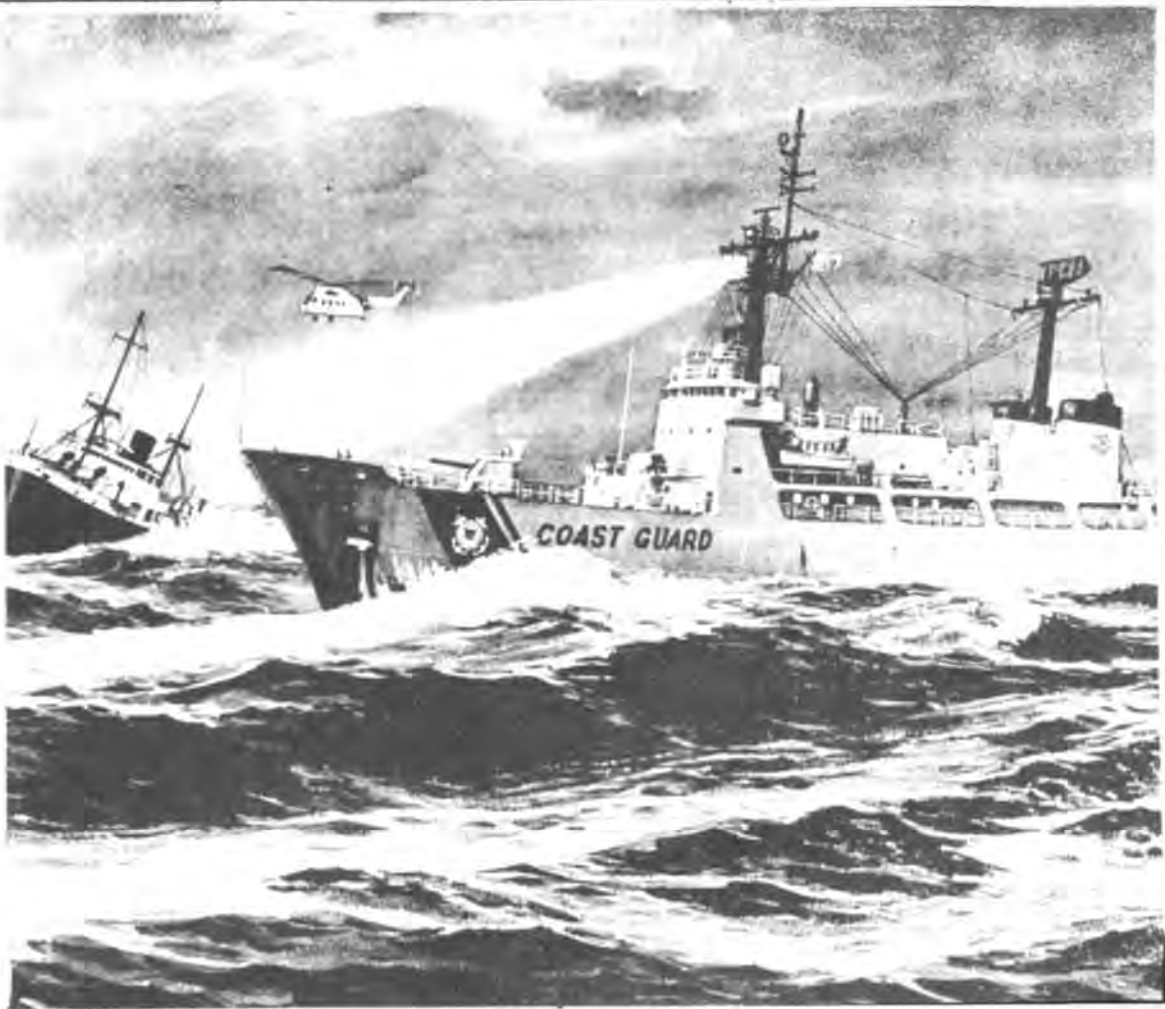
Communications on the Great Lakes

BY LCDR JAMES R. COMERFORD USCG



Early History

of Ship to Shore Communications



PRELUDE

One of the loneliest events in the life of the early mariner was witnessing the last mooring line being thrown clear from the dock. In essence, all effective communication with society was terminated. The vessel log served as the silent record for the voyage which terminated after months at sea. The log books of many vessels, unfortunately, became the permanent property of the sea with the fate of the vessel never to be known.

This solemn situation is no longer existent in the life of the mariner. The merchant vessels of this century are equipped with a variety of sophisticated electronic devices that assist in vessel navigation and provide immediate communication with shore stations. This communication capability has played a vital part in promoting safety of life and property at sea.

The Great Lakes Shipping Industry has historically proven to be a leader in the field of communication systems. The safety record established by the vessels engaged in the commerce of the Great Lakes is enviable and unsurpassed on the navigable waters of the world. The innovations that have transpired on the lakes has led and will continue to lead the industry. This article will trace the history of communications on the Great Lakes and relate how it has played an intricate part in the promotion of safety.

The turn of the century marked the arrival of commercial radio service. In 1898, a 24-year-old Italian, Guglielmo Marconi, installed the first commercial radio service. The user was Lloyds of London, which employed the service

off the Irish coast for ship arrival information. The development and acceptance of the wireless telegraph, however, was thwarted due to the general attitude that the radio was only an expensive luxury.

On the evening of January 23, 1909, the Italian vessel FLORIDA collided with the White Star Liner REPUBLIC in a fog 26 miles off the coast of Massachusetts. The REPUBLIC sent a distress call via the wireless (radio telegraph), and within minutes other ships were proceeding to the scene. There were more than 1,500 persons aboard the two vessels and all but 6 persons were rescued. The FLORIDA was not equipped with a wireless. Three years later the world was to witness one of the worst tragedies at sea, the sinking of the TITANIC. The vessel struck an iceberg and sank in less than 3 hours in a position approximately 1,300 miles from New York. The wireless was again credited with saving many lives. The radio operator managed to contact the CARPATHIA for assistance. Of the 2,224 persons on board the TITANIC, 710 persons were rescued. Possibly more lives would have been saved if the wireless operator on the CALIFORNIA, only a short distance away, had not gone off duty for the night.

These two casualties were among many that aided in arresting the doubts of the marine industry as to the usefulness of communication capability at sea. This, in effect, marked the birth of a new industry that would prove to be invaluable to the safety of the men and ships at sea.

During the period 1910 to 1912, the United States, Great Britain and other maritime countries made it mandatory for all ships over a certain tonnage to be equipped with a radio telegraph. Additionally, the United States passed legislation requiring a 24-hour

watch on certain class vessels. By 1918, 5,700 ships were equipped with a wireless telegraph.

Communications on the Great Lakes

Although the radio telegraph was not required equipment on board Great Lakes vessels, a number of vessels were so equipped. As of June 30, 1935, approximately 1,975 lakers were equipped with a wireless—which was the only long-range means of communication available. The radio telegraph, however, was destined to become a thing of the past with the introduction of radio telephone communications.

The SS WILLIAM ATWATER, owned by the Wilson Transport Company in Cleveland, Ohio, was the first lakes vessel to be equipped with a radio telephone. The equipment was installed by Lorain County Radio Corporation, a newly-formed company operating under an experimental license issued by the Federal Communications Commission (FCC) in Washington, DC. The ship-to-shore radio telephone station was established in Lorain and within one year became WMI, a public service coastal harbor station.

Only three months after the radio telephone was installed aboard the SS ATWATER, the device proved itself as a tool of safety. On August 27, 1934, an emergency call from Lake Superior to WMI Lorain was placed by the crew to seek medical instructions for first aid treatment. The Captain had fallen down a companionway and was knocked unconscious. The physician's instructions were followed and the vessel called at

the nearest port where the Captain was removed to a hospital. This incident demonstrated that radio telephone communications were rapid, with improved accuracy through personal voice contact. Additionally, the need for an operator, as required for the radio telegraph, was eliminated.

In the year 1936, the Lake Carriers' Association chose to develop the radio telephone system rather than equipping the vessels with radio telegraph equipment. There were a number of bills developed by Congress to require radio telegraph aboard all Great Lakes vessels, but all attempts were defeated. The Lake Carriers' Association retained the firm of Jansky and Bailey to devise a radio telephone system for the Great Lakes. By the close of the year 1939, a common and integrated system for marine communications had been established. The system established channel 51 (2182 KHz) as the common contact and safety distress calling channel, along with additional channels for ship-to-shore and ship-to-ship communications. This was accomplished through the cooperative efforts of both the Canadian and United States governmental agencies, marine industry and Lake Carriers' Association.

The year of 1940 recorded a number of violent storms on the Great Lakes. The loss of life and vessel loss was great. In an attempt to give the mariner as much notice as possible, the United States Weather Bureau began utilizing the radio telephone for weather broadcasts in 1941. This service has proven to be of great value to the mariner in the safe navigation of vessels.

The unfortunate events that transpired during the day of April 27, 1944 resulted in yet another safety broadcast that has contributed greatly to the safety record of the lakes. Lake Erie was blanketed with fog, which is common on the lakes during the early months after the opening of navigation. The SS JAMES H. REED and Canadian vessel ASHCRAFT collided approximately 20 miles north of Conneaut, Ohio. The REED sank almost immediately with the loss of 10 lives and injury to 3 crewmembers. Approximately two hours later, the SS PHILIP MINCH and SS FRANK VIGOR collided under cover of the same fog near Pelee Passage. The VIGOR sank with no loss of life. These two casualties prompted innovative thinking on the part of certain members of the marine community. The FCC was petitioned to allow a safety broadcast of "Security, security, security" on channel 51. The broadcast was to be made blindly on channel 51 advising all vessels in the immediate area of the broadcasting vessel's location and anticipated movement. The petition was approved and the broadcast has developed into a vital safety tool on the Great Lakes.

By 1950, every Great Lakes vessel was equipped with a radio telephone and use was widespread. The waters of the Great Lakes are international, with Lake Michigan being the only lake having total U.S. shoreline.

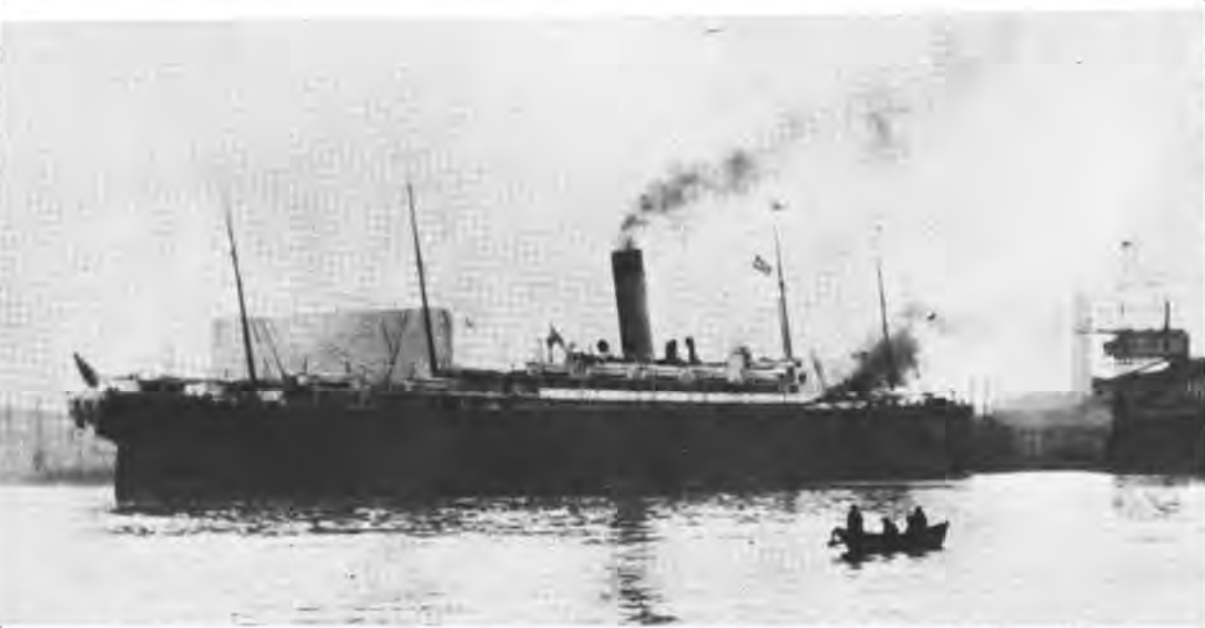
To ensure the proper use of the radio telephone, especially from a safety standpoint, a treaty between Canada and the United States was signed on November 13, 1954. The treaty, commonly referred to as the Great Lakes Agreement, requires that all vessels of 500 gross tons or over, or over 65 feet in length and carrying passengers, or engaged in towing, be equipped with a multi-channel medium frequency radio telephone with controls located on the bridge. It was required that the phone be FCC approved, capable of monitoring channel 51 (2182 KHz) and operating on channel 52 (2002 KHz), plus additional channels, to handle public correspondence. The signing of this treaty officially marked the radio telephone as the primary means of marine communication on the Great Lakes. (This treaty was amended on May 6, 1975 to require VHF rather than MF capabilities.)

By 1946, it had become apparent that projected user needs would be so great that the existing MF-HF system would not be able to meet the demand. Additionally, in 1947 the Atlantic City Radio Conference adopted channel 51 (2182 KHz) for world-wide use as a safety distress channel. These factors prompted the Lake Carriers' Association to examine the feasibility of employing VHF (very high frequency) in range of 156-162 MHz, as a means of relieving the burden placed on MF and HF.

VHF Communications

The studies initiated by Lake Carriers' Association rendered positive results in favor of FM/VHF. The study revealed that approximately 70 percent of all communications were 50 miles or less and primarily ship-to-ship. The major advantages of VHF are that it is highly reliable, static free, good for distances up to 50 miles and fades rapidly at greater distances. It also offers a number of channels for marine use. The FCC was petitioned to allow the establishment of a multi-channel VHF system. In 1951, the proposal was approved with 156-162 MHz as the frequency range. Channel 16 (156.8 MHz) was established as the common contact and safety distress calling channel. The use of VHF (FM) spread rapidly both for shipboard and Great Lakes shore station use.

(Cont'd next page).....



SINKING OF HMS TITANIC - MGY APRIL 15, 1912 MADE "WIRELESS" THE MAGIC WORD

On May 6, 1975 it became law, through treaty between Canada and the United States, that every vessel of 65 feet or longer navigating on the Great Lakes, every vessel engaged in towing, and vessels carrying more than six passengers for hire, be equipped with a multi-channel VHF radio telephone operating in the frequency range 156-162 MHz with monitoring capabilities on channel 16 (156.8 MHz).

The importance of the radio telephone becomes readily apparent to an observer on the bridge of a vessel navigating the Great Lakes. The ship's officer normally positions himself at "the front window" while piloting the vessel. From this position he can easily reach the whistle control, engine order telegraph bow thruster control, observe the radar, and reach the multi-channel VHF radio. Prior to getting underway, the Captain will give a "security" broadcast on channel 16. While underway, safety/distress channel 16 is constantly monitored. Communications between the company and vessel are immediate. Position reports, personnel changes, supply requirements, dispatching information are just a few of the information items passed. The vessel transmits on-scene weather conditions to the National Weather Service where it is compiled and broadcast to all vessels. The radio provides the medium by which Notice to Mariners and Safety Broadcast are disseminated immediately. The Soo Lock, Welland Canal, and St. Lawrence Seaway rely on the radio telephone for communication between control centers and vessels. The radio telephone and the manner in which it is employed on the Great Lakes virtually forms a network for all vessels to be made aware of marine activities in the vicinity. The geographical makeup of the area, with miles of narrow rivers and blind turns coupled with the frequency of transits, makes the lakes one of the most difficult bodies of water to navigate in the world. The officer positioned in "the front window" is aware and anticipates the meeting situation that is blinded by the bend in the river. Rules of the Road dictate that whistle signals must be exchanged in meeting and overtaking situations. However, if any element of uncertainty exists both vessels will normally reach agreement via radio telephone long before whistle signals are sounded.

During the 1977 navigational season there were over 11,000 passages in the Detroit River System alone. The use of the radio telephone along with the experience and skill of the Great Lakes mariner produced a combination resulting in a commendable safety record. The Automated Commercial Vessel Casualty file maintained by the Office of Marine Safety, Information and Analysis Staff, in Washington, DC reveals that for the entire Great Lakes there were only 18 collisions where both vessels were underway for the period of fiscal years 1972 through 1977. In eight of the investigations, the radio telephone was mentioned as being incorrectly employed. Additionally, 9 of the 18 casualties involved foreign vessels (other than Canadian).

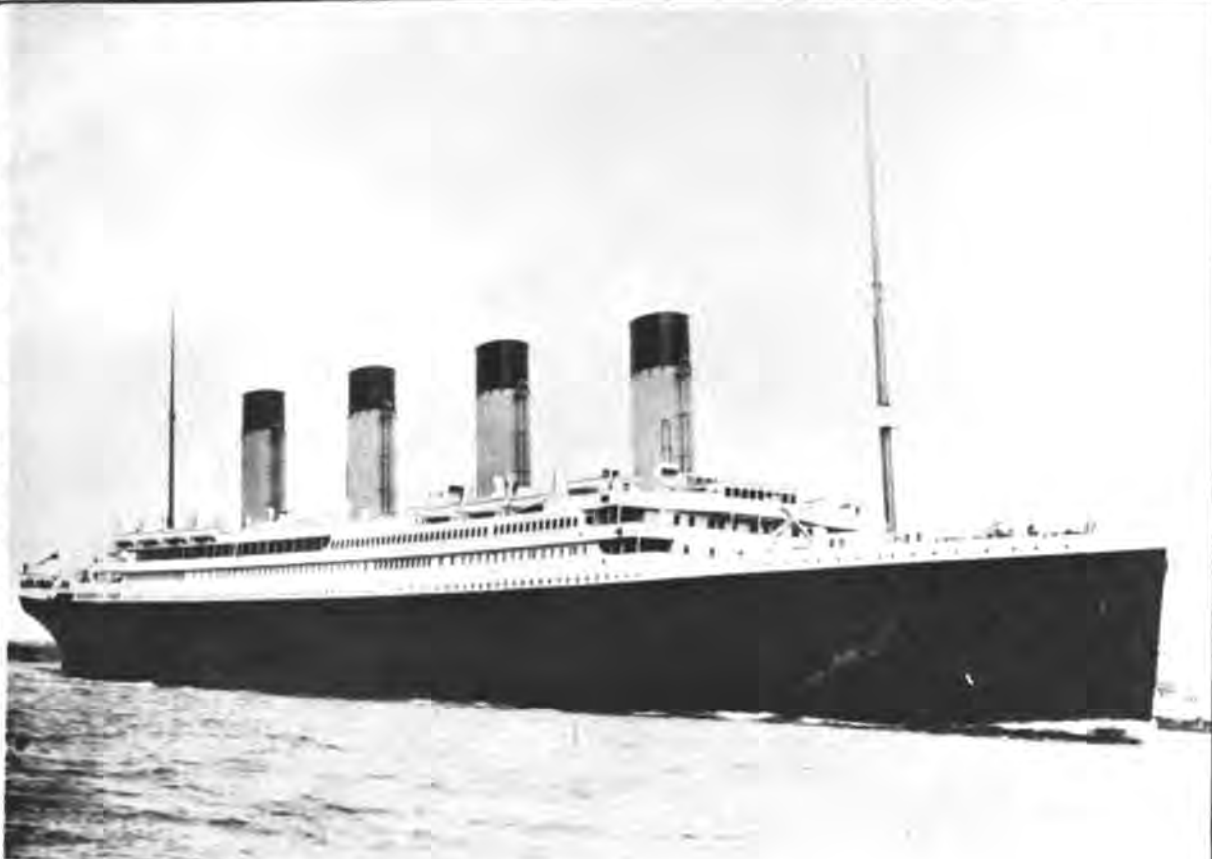
It is apparent that the radio telephone has played a major role in establishing the safety record on the Great Lakes. The Great Lakes marine industry, through dedication to safety, has proven to be a leader in marine communications and continues to maintain the recognition by ever seeking to improve upon the existing system.

The provisions of the 1967 World Administrative Radio Conference which led to the Federal Communication Rules requiring the conversion of MF/HF radio telephone from double sideband to single sideband technique and VHF channels from wideband to narrowband, would eventually lead to the demise of the manually operated system on the Great Lakes. The separately owned and operated MF/HF/VHF radio telephone shore stations on the Great Lakes are dependent on revenue from the number of calls handled. The fewer number of operating vessels, combined with required replacement of equipment as a result of the

The Future Is Now

FCC Rules, introduced an additional financial burden to the stations. Shipping companies were also faced with the problem of replacing shipboard MF/HF and VHF equipment.

In 1968 and 1969, the Lake Carriers' Association sponsored a study conducted by Advanced Technology System, Arlington, Virginia to determine the practicality of a centrally operated All-VHF System. The findings of the study were favorable. Additionally, in 1972 the Maritime



HMS. TITANIC - MGY

ON APRIL 10 1912, THE TITANIC LEFT ENGLAND ON HER MAIDEN VOYAGE. FOUR DAYS LATER, AS HER PASSENGERS WERE PREPARING A CELEBRATION OF THE LAST NIGHT OF THEIR JOURNEY TO THE U.S., THE STEAMER STRUCK AN ICEBERG AND SANK.

NUMEROUS ICEBERG WARNINGS HAD BEEN RECEIVED BY THE VESSEL'S WIRELESS OPERATORS BUT THE REPORTS HAD GONE UNHEEDED.

THE TITANIC'S DISTRESS CALL WAS ACKNOWLEDGED BY SEVERAL SHIPS; THE CARPATHIA 58 MILES AWAY, WAS FIRST AT THE COLLISION SCENE. MANY PASSENGERS WERE SAVED, BUT SURVIVORS NUMBERED LESS THAN ONE-THIRD OF THE TOTAL PERSONS ON BOARD.

THE IMPORTANCE OF SHIPBOARD WIRELESS COMMUNICATIONS AND, PARTICULARLY, THE EVOLUTION OF THE WIRELESS TELEGRAPH AND LATER THE RADIO TELEPHONE ON THE GREAT LAKES IS DISCUSSED IN AN ARTICLE BEGINNING ON PAGE 12.

Administration sponsored a Domestic Shipping Research conference which established the need for an improved lakes-wide VHF communication system. The conference resulted in the Maritime Administration awarding Lorain Electronics Corporation a contract to develop a proto-type system, which was completed in 1974 and refined during the 1975 and 1976 shipping season. The system was completed early in 1978 and consists of 16 unmanned stations serving Lakes Superior, Michigan, Huron, Erie, and Ontario.

The system introduces three basic new features: full duplex

voice transmission; an on-line computer system for registration and processing data; and facsimile or teletype transmission of data.

The system allows the seaman to dial directly from a vessel to any telephone dialable through land network. Conversely, a caller ashore can dial a ship directly if the vessel's location and address code are known. In the event the location or address code is not known, the system operator will make the connection through the systems control center. The full duplex voice transmission feature eliminates the disadvantage of having to push-to-talk.

The system employs a Varian V-72 computer and has the capability of gathering position and weather reports from all ships operating on the Great Lakes within seven minutes. This is accomplished by the mate entering the pertinent data in the periodic Report Register. The register is rectangular in shape and is auxiliary to the radio telephone unit. A touch-tone dial pad, similar to the telephone touch-tone, is utilized to enter the vessel's data alpha-numerically into the on board memory which is digitally displayed. Message headings are determined by turning a thumb-wheel on the register. Up to 14 different types of data can be entered for automatic polling by the shore-based computer. When the data has been entered by the mate, the thumbwheel is turned in position "ready." At specified times during the day the system computer collects the register information and triggers the "data sent" on digital read-out. The National Weather Service can then query the computer and get a dump of current weather data which is compiled into a timely and accurate weather broadcast. The position reports received from the vessels are sorted by the computer and transmitted automatically to the teleprinters in the respective shipping companies' offices. The information gathered by the computer is available to the system operator, located at the control center in Lorain, Ohio. The operator can query the computer concerning a particular vessel and obtain a CRT displaying a read-out of the vessel's

data. The display will give the ship's expected position derived from a program employing an algorithm to compute the position. The operator, with the aid of the computer, can also complete manually-handled calls by remote control of the shore station switching functions.

The application of the facsimile capabilities of the system are numerous. Among the applications are transmission of personnel listings, typed pages, sketches and pictures. This capability was utilized during winter navigations for the years 1974-75 and 1975-76 for transmission of ice charts. The charts that are transmitted are timely and provide a great service to the navigator in directing the vessel's movements through the ice.

CONCLUSION

The Great Lakes has entered into a new generation of communication capability in the establishment of automated telecommunications. The capabilities of the system are numerous. Just as in the past, the system will be fully developed to maximize the utilization safety aspect of the radio telephone.

CREDITS

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SS. CARPATHIA - MPA

PICTURE TAKEN IN 1903. OPERATOR THOMAS COTTAM OF THE CARPATHIA WAS FIRST TO PICK UP THE TITANIC'S DISTRESS CALL. HE SPENT OVER 3 DAYS AND NIGHTS WITHOUT SLEEP HANDLING DETAILS AND FINALLY FELL EXHAUSTED OVER HIS TELEGRAPH KEY.

UP THE AMAZON WITHOUT GUN, CAMERA OR B-BATTERIES

As Related By Matthew Camillo to Fred Rosebury

R/O AND SHIPMATE INVENT A PADDLE TO GET OUT OF THE CREEK

I was R/O on the SS CROFTON HALL/WDCW, a passenger ship which was bought by Moore & McCormack and had its name changed to the SS COMMERCIAL TRAVELER. Then it was sold to the government of Colombia in 1933 or 1934 and had its name changed again to SS CIUDAD DE CUCUTA/HJAV for use as a troop ship. The American crew was to be kept intact under contract for one year subject to dissolution by either party (Colombia govt. or ship's crew).

We went to the Port of Spain, Trinidad, for supplies, and with 1500 Colombian troops went up the Amazon. We took three pilots - four-on-and-eight-off watches, until we reached Matadi. The ship was equipped with the "latest" radio gear: a PS spark xmitter, a crystal and a 106-D rcvr. with a 1-tube detector.

My second operator was Tom Bicket (see below) from Long Island - there were only the two of us and it was the first time at sea for Tom. While at Puerto Colombia, Tom went ashore, taking the set of B batteries (for the single tube) with him without my knowledge. He swapped them for a bottle. I only found out about this too late after we left port on the way up the river. So I used the crystal for receiving and said to Tom "Mum's the word—" since no one knew how poorly equipped we were.

Our destination was Leticia. The tub went as far as she could and we dropped the hook. (Peru and Colombia had been at war up to then, but peace was now signed and all was quiet.)

Please get this: Upon anchoring, General G.D.Vargas (later, president of Brazil) came to me and wanted to establish QSO with Bogota. He got the surprise of his life when I told him how ill-equipped we were - tried to raise hell with me, but calmed down when I told him that short-wave was not available anyway. A few days later he came up to the shack and said there was a Colombian gunboat up on the bank of the river not far away. "Go and see what you can salvage," he told me.

We had it made - - - almost !

So with First Assistant Engr. Burris, I went on board the gunboat which was owned by a stockbroker who had plenty of dough. What we saw when we made a search was an eye-fu! A custom-built xmitter - 800 to 27 meters, with a pair of 204A tubes in final. There were two National shortwave recvrs. Fortunately the radio gear was all above water, and I thought we had it made. The shock came when I discovered it was ALL 60 CY AC GEAR!

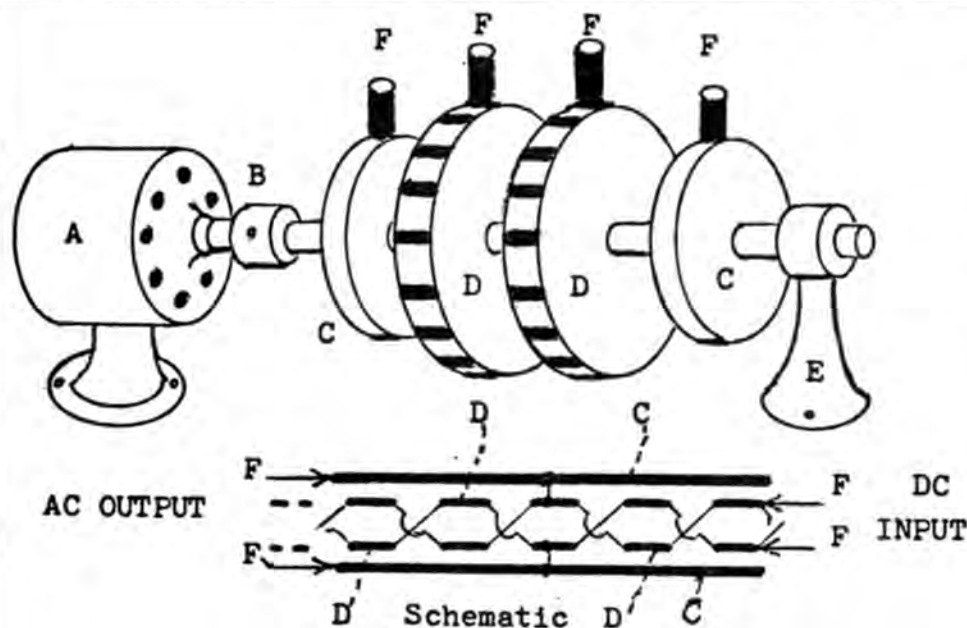
But we took it out and brought it aboard the CUCUTA anyway. . . . To paraphrase an old saying "Dire necessity is the Mom of Invention." I racked my brains trying to figure out how to make a converter for all this wonderful gear. Out of the two 204A tubes, only one was good - the other absolutely NG.

Jungle Engineering

So I got an idea for the converter and when I explained to Burris he grasped it (with enthusiasm). And that afternoon we went to the ship's machine shop and went to work. Since we had little choice in the way of material we had to make do with what we had. We found some pieces of 3/4" bakelite from which Burris turned out two pieces 5" in diameter and two 3" in diameter. We cut eight segments out of sheet copper which were mounted on the 5" wheels a la commutator and spaced about 1/16" apart (8 on each wheel). (We found later that there was no trouble from carbon accumulation although there was some sparking.) I tore apart four flashlight batts for brushes. We took a copper condenser tube 5" in diameter and a smaller piece of copper pipe from which Burris made the 5" and the smaller one to fit the respective bakelite pieces. I tore a fan off the wall for its motor; when I checked the speed I found it was 900 rpm (see diagram.)

Good ol' Burris made some proper couplings and end bearings, also he cut a piece of $\frac{1}{4}$ " floor plate 18" x 10" to mount the whole thing on; and by midnight we were rarin' to go.

On top of the xmitter I built a breadboard and wound the inductances on the corrugated part of the NG 204A, took two condensers from the gunboat xmitter, one for tuning the MO and the other for the antenna, - said a silent prayer - and we were ready to try it out!



EMERGENCY DC TO AC CONVERTER

- A-900 RPM DC FAN MOTOR
B-COUPPLING
C-C-COLLECTOR RINGS - AC OUTPUT
D-D-DC INPUT (COMMUTATOR) 8 segments ea.wheel
E-END BEARING
F-F-CARBON BRUSHES

FR



THE CONVERTER WORKED BEAUTIFULLY!! Input was 110 DC, output was 106 AC, approx. 60 cy. (How can I ever forget it!) I tuned for WAX on 36 mtrs (frequency was being used very little in those days.) So much for receiving. I patiently tuned around until I heard a fruit ship calling WAX - and set the xmtr on his wave.

QSO WAX ... We had it made

By then it was like climbing the ladder or success - that last rung was the final glory: HURRAY! IT WORKED! I gave WAX a call or two and he came back. It was now close to 3 a.m. our time. I told him about the ship, about the American crew and all the details, and that we had not heard from home in over three months, and would be pse take msgs: the Colombian govt. would foot the bill. He said GRX a minute, then came back and gave me the Go Ahead.

Meanwhile Gen. Vargas, the skipper, the mates, etc. were all around us. By the time I had received a QSL for the first two mags, the crowd in the shack had increased and was bulging: mates, engineers, watertenders, seamen, etc. etc. I collected over 30 mags and got QSL for all. Then the General gave me t/c for Colombia and for NYC, and by next evening after chow (it was getting darker then), we had accomplished our purpose, especially for all those who had assigned monthly allotments to home folks: no one knew if those allotments had been delivered. My wife was the first to answer that evening, saying all was OK, that she had received all the allotments, that our daughter was OK. etc.

Equation not found in Bucher

Some of the figures for the converter by actual calculation. DC can be converted to AC, to any frequency:

$$\text{freq} = \frac{\text{rpm} \times \# \text{ of segments on one wheel}}{120}; \quad \frac{900 \times 8}{120} = \frac{7200}{120} = 60 \text{ cy.}$$

NOTE: Some time later, when I was R/O on the SS STEEL NAVIGATOR, some of the crew bought themselves Pilot shortwave radios with vibrators for conversion. I expected breakdowns in about a week - and sure 'nuff it happened. I gave the idea of the "commutator" converter to the first asst. engr.: he built a close duplicate of the original one, also with a 900 rpm DC fan motor. We tried it by resting it on his bunk - and it worked so well that it was placed atop the water tank in the "head," where the others could take feed from it. This one ran night and day; collected dust but it never failed.

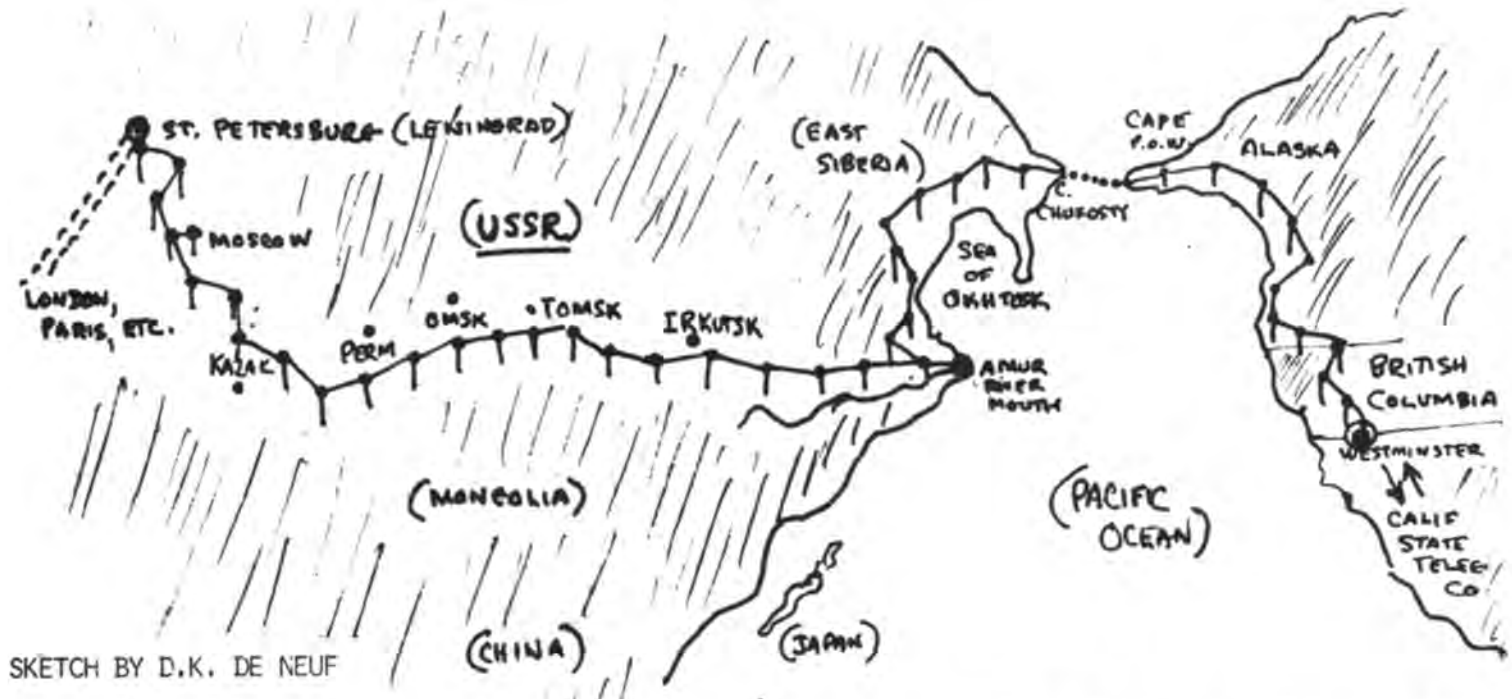
...about Matty

About me: I was licensed as a ham in 1920 at Bridgeport CT. Got my comm. lic. in 1925 and went to work for the Morgan Line* Did stints in small BC stns then starting up - and you said your prayers that you would get your 30 bucks or so at the end of the week. I've gone as much as 8 weeks without pay.

Then went to sea for awhile. Anxious to get ashore, I went with the CAA (now FAA). They paid only \$1550 a year at the beginning. I went to "CN"/Concord and was trying to keep two homes going; it was a tough job so I quit and went to RCA for an assignment.

I got my COMML. EXTRA FIRST CLASS ticket in 1934 on a Thursday, and Saturday I sailed on the SS VIRGINIA/WSW of the IMM Line. After two trips I took a job as RCA Radio Inspector/Installer, first in NY then in the Camden-Philly area, just Bill Uhler and I, he in the office and I on the boat.

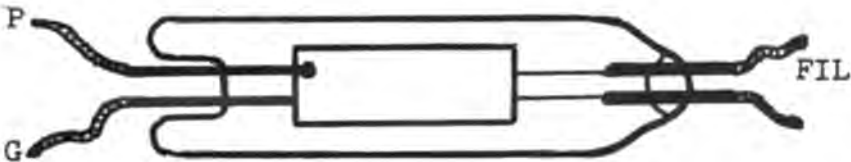
Globe-Girdling Telegraph Plans Revealed in 1860 "ATLANTIC-MONTHLY"



The inventory of poles, wire, and insulators were sold on the spot, wherever the material happened to be stalked along the routes. The Indians and Eskimos found immediate use for the wire - forming it into large fish hooks and jewelry. Poles were used for bridge construction, and the insulators made fine drinking cups.



MATTY CAMILLO STORY



204A Xmitting triode (about 15" long)
250w max; cathode 11v, 3.85a; E_p max 2500v.
For class C telegraphy, class B or C phone.
Operating frequency range 3 - 30 mHz.
(For phone wk, the 849 as modulator.) Used to
run with plate red hot; a very rugged tube.

I took a course at the Capitol Radio Engineering Institute; graduated in 1938.

Meanwhile I had belonged to the Union all these years. I came home one Saturday to Bergenfield NJ where I found an offer from CBS where I put in 30 real happy years, some in Operations, mostly at TV xmitters, FM xmitters, four late model rigs in Brentwood and three 50 kw xmitters in Wayne NJ.

From four weeks vacation, then five, and then a sabbatical of 10. I managed to get a ship for those periods almost every year, mainly the Panama Line and the Grace Line; and so here I am as happy as a lark in my three golden acres, having moved from Bergenfield in 1973.

I operate my ham set which has always been on CW and SSB, but my heart is in CW; SSB is for CBS retired guys who can't copy, so if I want to keep up with them I had to go SSB.

I was Secretary/Treasurer of the Veterans Wireless Operators Association for eight years: 1970-1978.

Believe it or not, some years after I had joined CBS, I ran into Tom Bicket there. They had hired him and put him to work in the Radio-TV construction shop, which is by no means a small place. They have about a dozen first-class machinists and all kinds of machinery. At one time there were about 750 technicians working at CBS; that includes operation, xmitters, film, TV repair crews (for the officers' offices). It is a wonderful place to work.

I retired in May, 1970. Having 10 weeks sabbatical-vacation pay, I was officially there until July 30, but during that 10 weeks I took a ship out: the SS AMERICAN CONDOR, an ammo ship.

Tom Bicket became a silent key while at CBS. He took sick and died about 1961.

73s to all.

—Matthew Camillo (750-SGP)(W2WB)
393 Gordons Corner Road
Englishtown NJ 07726

* The Morgan Line was known along the waterfront as the "Prune-Pit Line." They ran coastwise to Eastern, Southern and Gulf ports; it was a cheap way to travel. The navigators could steer their courses by taking soundings along the way; if the lead brought up a prune-pit or two they knew they were on the right course... (Ed.)

HISTORICAL PAPER

WESTWARD-HO TO EUROPE

BY DONALD K. de NEUF

"Unquestionably the most feasible route for telegraphic communication between America and Europe is one via British and Russian America, Eastern Siberia and on into Russia. Although it is the longest by several thousand miles, it would afford the most rapid means of communication, owing to the great superiority of aerial over subaqueous lines". This allegedly appeared in the ATLANTIC MONTHLY early in 1860.

In the opinion of many engineers a submarine cable laid in the depths of the Atlantic was completely impracticable. On the other hand even though his early efforts ended in failure, Cyrus Field was encouraged by a small group to continue his attempts.

Companies in various parts of the world were rapidly being formed to construct the segments of a proposed semi-globe-girdling system running generally Westward from the U.S. It is interesting to note that at this time the U.S. itself had not yet been bridged by the New telegraph - the Pony Express was in operation and was not discontinued until October 1861 when the first trans continental line was completed and operating.

The Western Union Extension Telegraph Company (US) with a capital of ten million dollars, began construction of an overhead line which was to run through British Columbia, "Russia America" (now Alaska, which did not become a U.S. territory until 1867), and across the Bering Straits into Siberia. The line started at New Westminster (BC) which was the northern terminal of the California State Telegraph Co. The Bering Straits segment of course was to be a 400 mile submarine cable between Alaska and Cape Chukosty in Eastern Siberia, but all other sections were to be overhead open wire lines on poles. From Cape Chukosty the line was to follow a route around the Sea of Okhotsk to the mouth of the Amur River where it would interconnect with the line being constructed by the Russian Government; from there to St. Petersburg (Leningrad) via Tomsk, Omsk, Perm, Kazan, and Moscow. The St. Petersburg terminal would connect with various European lines. The length of the circuit, U.S. to St. Petersburg would be in the order of 10,000 miles.

The magnitude of this over-all project, especially the construction through the mountains of British Columbia, Alaska, and Siberia was breath-taking, but not overwhelming. The promoters, planners and engineers involved were all hardy souls accustomed to a rough life and many gambles. For example, while timber for poles existed on most of the route, they would have to haul, in frequently severe weather, all the poles required for unwooded steppe areas which were five hundred miles wide on each side of the Bering Sea.

By 1865 a reliable trans-Atlantic submarine telegraph cable was operating successfully and the enthusiasm for continued construction of the new line via the Pacific route with its enormous cost rapidly died out, and the project was cancelled.



THE "KFS" EDITION



S.O.W.P. IN PICTURES

NOTE TO MEMBERS. We need pictures—please send pictures of yourself, your ship, or anything of real interest for these pages.



LITTLE 'GRASS SHACK' IN HAWAII - 1938.
"Charlie" Darracott assigned to the USS
LEXINGTON/NIKM- Pearl Harbor - 1927.



DIRECTOR AND GUEST
Judge James Harvey (Jim) Brown (381-SGP W6VH) snapped at the head-table of a SOCIETY MEETING in Pasadena, CA with long time friend and guest Maria deForest, wife of the Late Dr. Lee de Forest. This lovely lady has attended many Society meetings in S. Calif.(We regret to report Maria has been in ill health and now hospitalized in a nursing home in Los Angeles). Late Note: Judge "Jim" Brown has been chosen by the nominations committee on its slate for next President of the Society.



SKIPPER CAUGHT IN A 'PENSIVE' MOOD

"Ye Ancient Mariner" -- "Bill Breniman, that is ... snapped by ship's photographer aboard the SS MARIPOSA waiting to snap a pix of THE BRIDGE as ship swung out of the harbor. He was thinking about the many enjoyable calls to Australian ports nearly 50 years before on "KEBQ".



BEN HASSELL/1640-P
SS. CHOMEDY/VGDF

LEE R. LEIGHTON 2811-SGP
ATS GREAT NORTHERN/WIR





WE ALL CALLED HIM "RADIO REX"
Gilson Vander Veer Willets - 22-SR. SGP became a silent key Jan. 7 1976. Radio Rex started VWOA in 1925. Prior to his passing he was the Society's First Historian and one of its Directors. Here we see him comparing the new against the old.

Communications news
... in pictures ...



WORLD'S FIRST "DISK-JOCKEY"
Charter Member RAY NEWBY & XYL (49-Sr.SGP)
"Ray"claim to being the World's "FIRST DISK-JOCKEY" is well documented - circa 1909. First ship assignment was the SS Atlas/GN-1910.



TECHNICAL EDITOR & CONSULTANT
Thorn L. Mayes who was the very first TECHNICAL ASSOCIATE to be accepted by the Society (Jan.30, 1971). He has written many Historical Papers on the Early Days of the Wireless and has served as Technical Editor and consultant for many years.



"OFF LIMITS" YOU GOBS
Sorry to tell you fellows, this Navy "Miss" (RM 2/c at NPM in 1945) now splits her loyalty with the U.S. Signal Corps. Her hubby is Major, James R. Stephens- Signal Corps Ret. (TA-93) His XYL answers to the handle "Dottie" over station KA4GNF. Dorothy B. Stephens is SOWP member No. 3021-V. Pix by husband "Jim"



ERNEST GANNETT-3214-P
SS. COMBER/KFKK - 1929

PORTISHEADRADIO - GKA

GKA - World's Busiest Maratime Station Greets SOWP



GKA



THE STATION HEARD AROUND THE WORLD

REPORTED BY DON MULHOLLAND



Please address any reply to
The Officer-in-Charge
and quote:
Your reference:

Post Office Radio Station
HIGHBRIDGE
Somerset
TA9 3JY
2 October 1978
Telephone:
Burnham-on-Sea 783291
(STD code 0278)
Telex: 46111 (PORTISHEAD RADIO)

The Society of Wireless Pioneers
P.O. Box 530
Santa Rosa, California 95402

Dear Editor Breniman:

Greetings from GKA - the world's busiest maritime radio coast station.

Vol 1 No 4 of the Sparks Journal reached here today after relay through the post office in London and our transmitter site at Portishead. We have been reading your Journal for many years, and I thought that now was an opportune time to give you our correct address.

1978 marks an important stage in the history of Portishead Radio in that the original transmitter site at Portishead goes out of service. Meanwhile we have been providing for an expanded maritime communication system and have increased to 50 transmitter services at Rugby, Dorchester, Ongar and Leafield. We think we are the busiest radio station in the world and have a staff of 243 radio officers, so your Journal gets well thumb-ed.

In the event that you would wish to know a little about us, I have included a couple of enclosures; make of them what you will.

Yours Sincerely,

Don Mulholland

Don Mulholland
Officer in Charge

The complex known as PORTISHEADRADIO is controlled from a receiving centre at Burnham-on-Sea in Somerset. The station takes its name from the transmitter site at Portishead, near Bristol, which has been devoted to the maritime service since 1925. Over the years it has been necessary to supplement the transmitters at Portishead by others at post office radio stations operating in the point-to-point service with other countries. This latter service is declining as more land cable routes and satellite circuits are provided; it has been convenient for the maritime service that the decline has occurred during a period of maritime growth. We are currently using 50 transmitters at Dorchester, Leafield in Oxfordshire, Ongar in Essex and Rugby. To cater for maritime expansion in the most efficient manner it has been decided to concentrate maritime services at Rugby, Leafield and Ongar, and to close the stations at Dorchester and Portishead. This programme is already in course. It is providing a modern facility in regard to both transmitters and aerials which are especially suited to the maritime service.

In the financial year ended March 1978, the complex handled 810,000 radiotelegrams, 110,000 and 40,000 calls by radiotelephone and radiotelex respectively. This compares with 3 million words by morse in 1938 and a few thousand when the station first started in operation.

Consequent upon the first International Radio Convention in 1906, it became evident that Government would have to take a hand in the development of maritime communication. This resulted in the construction of several radio stations and the purchase from Lloyds and Marconi Company of stations operated by them. All these stations provided communication by morse and had a working range of a few hundred miles in the medium wave band.



GKA - ONE OF 3 WIRELESS/TELEGRAPH OPERATING ROOMS
(Photo by Chris Hammond Studios)



Early Experiments

It may be interesting to recall some of the early experiments in radio communication, notably by Marconi and Franklin. Morse signals bridged the Atlantic in 1901 and the first speech followed in 1915; three years later the first morse message was sent from England to Australia. In those early days it was the common belief that long distance communication was possible on long waves; the longer the wave, the greater the power, the higher the aerial, the greater was the range of working. It became common practice to use wavelengths of thousands of metres. This then was the form of communication in the 1920's. Back in 1916, Marconi and Franklin had experimented on short waves using 2 metres for line of sight communication. Meanwhile, radio amateurs had been allocated chunks of the spectrum thought to be of little use for long distance working; reports of transatlantic contacts below 200 metres resulted in further experiments by Marconi and Franklin and enabled them to work

Australia on radiotelephone in 1924; these experiments confirmed the 1920 theories of Appleton about reflecting layers in the ionosphere.

It was against this background that the post office established two long wave stations for maritime communication. One at Devizes in Wiltshire was designed to provide two-way communication with ships at ranges of up to 2000 miles in the band 110-160 kilohertz; this was provided in 1920. The other was at Rugby which was provided with high power, used longer waves and higher masts this provided one-way communication to ships. Publicity material available at the time quoted:

Rugby Radio to ships on all seas at 1s/6d per word -
Devizes Radio and other land stations for ships up to five days from a British port, 11d a word; facilities also available from ship to shore.

It rapidly became apparent that the facilities at the Devizes station were inadequate and that it would be necessary to separate the transmitting and receiving stations. In January 1925 the Devizes station was closed and a new complex was opened in Somerset with receivers and control at Burnham-on-Sea and transmitters at Portishead. The same type of communication, as at Devizes, was provided and it concentrated upon the passenger liner trade in the Atlantic.

Meanwhile, taking note of the Marconi and Franklin experiments in short wave working, the post office inaugurated an experiment in 1926 from the Burnham/Portishead stations, using one transmitter and one receiver in the short wave bands, with the liners Carinthia and Olympic. It was immediately successful and from this small beginning, fifty years ago, maritime long distance two-way communication developed.

Concurrent with the post office maritime developments, Marconi and Franklin pushed ahead with their short wave experiments; this resulted in a projected plan for long wave communication within the British Empire to be abandoned. Inventing valves suitable for the job, aerials and coaxial feeders, they built a short wave communication between Empire governments using directional aerials; this was known as the beam system. Some of these experiments were in use forty years later. The first link was introduced between Britain and Canada in 1926. Thus, the point-to-point service on short wave developed at the same time as the maritime short wave service.



GKA - CONTROL ROOM AREA SHOWING SHIPS BUREAU (TO SHIP ROUTING TRAFFIC) IN FOREGROUND. TRAFFIC LIST AND INTERCOM CONTACT POINT WITH W/T, R/T & RADIO TELEX OPERATING POSITIONS (IN BACKGROUND). THROUGH GLASS SCREEN A SECTION OF THE LANDLINE ROOM. Pix by Douglas Allen.



PART OF THE RADIO TELEX ROOM - Chris Hammond Studios Picture.

From the early beginning at Burnham/Portishead (Portishead Radio) we rapidly developed, using frequencies in the range 4 to 22 Megahertz. By 1939, fifteen receivers and six transmitters were in use, handling about 3½ million paid words in each year. Then with the war came the cessation of commercial working, to be replaced by naval communications which included the landings in North Africa, the sinking of the Scharnhorst, distress calls and enemy reports.

WW 2 Spawns Need to Expand Wireless

The demand for an increase in world-wide maritime communication, immediately after World War Two, gave rise to a major reconstruction and equipment programme in 1948, and since then further additions and modifications have been made. This introduced a new era for morse communication which was to last until 1971. Radio stations in the British Commonwealth agreed to participate in a world-wide link-up and with each station responsible for working with ships in their own area. The Royal Navy provided a link between the land stations. This system catered for British ships only and avoided the need for extreme long distance communication between ships and shore; ships were able to receive messages from Britain through their own local Commonwealth station and to transmit messages for Britain through the same station. Portishead Radio acted as the coordinator and maintained a vast file index on the movements of all British ships so that messages for them could be routed to the appropriate station. At this period Portishead Radio had 38 positions for operating world-wide in the 4 to 22 Megahertz bands and 4 positions for operating in the long wave band (110 to 160 kilohertz). But by 1957 the need for long wave working had ceased and the equipment was changed for short wave equipment; thus 37 years of long wave working came to an end. All communication with ships was by morse.

Meanwhile, as an offshoot of the short wave beam service to other countries operated through Rugby Radio, a radiotelephone service with ships had also been developed. Transmitters at Rugby, and receivers at Baldock, were linked in a London Terminal.

Telex Takes Over Landwire

At this stage it is of interest to note the changes that had occurred in landline communications. Within this country the post office had used, traditionally, morse code on sounder circuits, and this was how the original maritime stations developed. Messages to ships were tendered at post offices and transmitted to the coast stations and in the reverse direction messages from ships were delivered through the appropriate post office. There were also links with other countries through London Central Telegraph Office. Then came the age of the teleprinter and Portishead was equipped with teleprinters working directly into the Central Telegraph Office in London through which all messages were routed. In course of time the post office developed a system of manually operated teleprinter exchanges where calls from one post office could be connected to another; again, Portishead Radio was included in this system. Manually operated exchanges gave way in course of time to automatic exchanges with facilities at the terminals to directly dial the wanted post office or coast radio station. Then followed the telex system where private subscribers were able to dial and deliver their own messages. The rapid growth of the system has made it uneconomic for the post office to continue with its own internal system and now all traffic between post offices and Portishead Radio is dealt with by telex. At the same time, Portishead Radio deals directly on telex with individual subscribers. It also maintains private circuits with some subscribers who for one reason or another are prepared to pay more; this includes the Meteorological Office and over this

- CONTINUED TO PAGE 20 -

'G K A' PortisheadRadio

(Continued from Page 19)

circuit are sent meteorological observations from ships at seas, weather routing messages and weather bulletins to ships at sea.

Maritime Radiotelephone

Transferred to Portishead Radio

In 1970 it was decided to transfer maritime radiotelephone work to Portishead Radio and this change produced a remarkable growth in such traffic. It has entailed the provision of additional receivers and transmitters.

With the general growth in radiocommunication it has become necessary to use transmitters at several other locations and we currently control such equipment from Burnham at Portishead, Dorchester, Rugby, Leafield and Ongar. Many of these equipments were used in the point to point service with other countries. They became spare because of the transfer of such services to cables and to satellite circuits. Thus HF radiocommunication in the fixed service has declined while the maritime HF service has increased.

Demise of Morse

In 1971 the Commonwealth Area system of communication by morse met its demise, mainly because overseas administrations felt unable to support it further. So British ships had to revert to the direct method of communication with Portishead Radio, at all distances, in common with foreign flag vessels who had continued with this method throughout. This caused a further increase in the number of equipment at Portishead Radio but introduced some difficulties. British ships had generally been able to fit fairly low power equipment to maintain contact with local Commonwealth Area stations, but now they had to fit more sophisticated gear. This change was aided by changes in the International Radio Regulations which called for better stability; manufacturers, in providing for this, also produced equipment of greater power. It was in the North Pacific that difficulties arose because ships with the lower power equipment had difficulty in communicating with Britain. This is a natural phenomenon which affects the area 140 degrees West to 170 degrees East approximately. So we introduced a special system for dealing with the area; this included high power equipment and directional transmitting aerials. It was an immediate success and the system has been extended to other parts of the world. Such facilities were not exactly new because, before the war, a rotating beam system had been available for both transmitters and receivers. Since the war the Portishead reception system has used directional facilities on all circuits from ships.

Radiotelex Expanded

Communication by radiotelex has been used off and on for some years and during the sixties a tanker company made special use of the facilities; it was a contract service rather than a public service with all ships. Some development in this field was initially retarded while administrations awaited International decision on the performance specifications for such equipment but, in due course, a Dutch design was accepted as the world standard. This enabled Portishead Radio to embark on a public service in January 1974. The system provides a means of connecting a ship and any telex subscriber; in effect the interface operation at the coast station may be compared with that of a telephone exchange operator who connects one subscriber to another. The service has been developed on a semi-automatic basis and the success obtained indicates that it may be possible to completely automate subscriber through dialing. At present however, it is possible to set up a circuit between the ship and shore by automatic means and then to connect in the landline subscriber on his telex machine. Intelligence can be placed aboard the ship without the need for any action by the ships Radio Officer. A somewhat similar system of machine telegraphy has been developed for placing aboard a ship intelligence which can be used to automatically produce a daily newspaper and this has been in regular use for some years. It may be that this system of communication will replace the morse system because it is faster and more accurate.

Broad Coverage of Services

At this stage it may be of interest to describe the various services. The cheapest form of communication is by Ship Letter Telegram which is in the form of radio transmission from the ship and postal delivery from the coast station. It embraces social and business communication, but caters especially for Agency services such as Interflora, Kays Mail Order, Vernons Football Pools. The most commonly used form of written communication is by radiotelegram; it operates in both directions with speed transit. Radiotelex, also providing for written communication, actually connects the two parties by teleprinter, but is available only to shore customers fitted with telex equipment. Radiotelephone enables parties to be connected by telephone.



GKA - 1 OF 3 RADIO W/T OPERATING ROOMS AT PORTISHEAD RADIO

While most written communication is handled by morse, it is also possible to use either the radiotelephone or radiotelex facilities. Various broadcast services are provided to all ships and these include daily weather bulletins, navigational warnings and press bulletins; these are effected on morse circuits. The liner QE2 is provided with a special newspaper service whereby signals from the shore are received aboard ship and used to set up a tabloid newspaper. A free medical service allows a ship to obtain advice from the Royal Naval Hospital in Plymouth, using either morse or speech, or to obtain assistance through the auspices of the Coastguard and the Air Sea Rescue authorities or by Portishead Radio alerting other ships with Doctors aboard. Facsimile is provided and pictures or documents can be exchanged by this method. Quite some use was made of this service when pictures taken at sea during the Cod War were transmitted from ships to the news media.

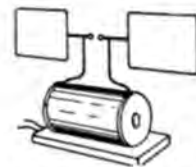
Traffic Alerts

The method of alerting ships to the presence of traffic at the coast station depends to some extent upon the equipment available aboard ship. The traditional method is to include the ship's radio call sign in a traffic list which is emitted at scheduled times on pre-arranged frequencies. If the ship is fitted with radiotelephone only, she is called in the radiotelephone traffic list, but in all other cases she is called in a morse traffic list. The receipt of this information aboard ship is a requirement to establish communication and to obtain the traffic on hand. An automatic system of alerting can also be used with suitably equipped ships. Each ship is allocated an identity code which, when transmitted by the coast station, allows the identity code of the coast station to be presented in the form of a visual display. If the ship is fitted with radiotelex, a similar system of automatic alerting is used, but in this case the system automatically sets up a two-way circuit with the ship.

A ship wishing to establish communication will decide which coast station is required and then the mode of communication and the frequency band. If the communication is to be by morse, the ship's receiver is tuned to the nominated coast station frequency and the transmitter is adjusted to a calling frequency. At the coast station a search operator scans the ship station calling frequencies and answers any ship heard calling, thus contact is established. Much the same procedure is used on radiotelephone. After contact, it is a requisite for the ship and coast station to move from the initial contact frequencies so as to leave them clear for other ships.

The Present and Future of Radio telegraph

The present service is provided by 46 transmitters and 50 receivers. Plans for the next few years envisage considerable expansion with a new station at Burnham on Sea. This is planned to cope with the general growth anticipated in the HF Service. This paper has covered fifty years of HF communication and we are now at the beginning of an era in maritime satellite communication which, in course of time, will cause HF communication to die. Now that we have become so used to technological change, I doubt whether the story of the next fifty years will be as inspiring as could be told by those early experimenters who pushed back the frontiers of knowledge.



Hertzian Oscillator





Edited by Fred Rosebury

The Huff-Duff was a type of high-frequency direction finder with scope readout used by escort ships in conveying to triangulate on signals from U-boats and U-boat wolfpacks in the Atlantic, in WW2. An escort group of ships with such equipment in three or more ships was known as being Huff-Duff equipped. An operational convoy with three or more of the equipments in three or more escort ships was known as a Huff-Duff equipped convoy.

ECM=electronic counter measures=jamming.
ECCM=electronic counter-counter measures=something done to overcome the effects of jamming, either technical or operational or perhaps both.

Spoofing-usually a type of ECCM. Something done to make the enemy think he was receiving valid traffic while in reality he was receiving fake information. This could be operational and/or technical. There was also masses of dummy-coded traffic sent to someplace or some ship or flag aboard some ship; there could be requests for many repeats on messages over circuits that the enemy was jamming, while in reality the circuit had been shifted to another frequency. And so on.

Crypto=Coding or uncoding messages.
Crypto Board=A group of personnel which codes and decodes traffic.
Crypto Machine=A machine with a keyboard like a typewriter that codes and decodes messages. These are usually received in five-letter code groups. Command ships carried a higher classification of crypto equipment than other ships. As a general rule only the Escort Commander in a convoy, the Crypto Board and machine aboard the ship he rode in, could unscramble message traffic of certain content to the convoy.

-D.C.H.

New Orleans for help on our arrival there. The service men came aboard and tinkered with the rectifier; they couldn't get it to work either. "Well, you got in here with your jury rig," the man said, "so take it back to New York the same way."

Upon arrival in Hoboken another service man came aboard and replaced the rectifier, after which all went well.

All of which goes to show that operators had to be able to make repairs and do things that were never called for in the license exams.

- Richard M. Jones (2751-P)

EARLY US LICENSE-1912 COS



OPERATOR'S CERTIFICATE OF SKILL IN RADIOCOMMUNICATION

This is to certify that, under the provisions of the Act of June 24, 1910, Conrad Raymond Henry has been examined in radio communication and has passed in:

(a) The adjustment of apparatus, collection of signals, and change from one wavelength to another;
(b) Transmission and soundings at a speed of not less than fifteen words a minute Morse, plain, and Continental, five letters, consisting of not more than:

The candidate's practical knowledge of adjustment was tested on a Baby set of apparatus. His knowledge of other systems and of international radiotelegraphic regulations and American naval wireless regulations is shown below:

Is familiar with the limited wireless telegraph code set, is familiar with international and naval wireless regulations

Walter J. Fawcett
Place Marine Island, Cal. Date February 29, 1912

By direction of the Secretary of Commerce and Labor:
W. E. Schuchman
Commissioner of Navigation, Washington, D. C.

I, Conrad Raymond Henry, do solemnly swear that I will faithfully practice the rules of all messages coming to my knowledge through my employment under this certificate; that my obligation is taken freely, without mental reservation or purpose of evasion; and that I will well and faithfully discharge the duties of the office to which I am appointed.

Conrad Raymond Henry
Date of birth Sept. 14, 1893 Place of birth San Francisco, Iowa
Signed by and subscribed before me this 29th day of February, 1912.

E. J. Russell
Notary Public for the State of Iowa

This certificate is valid for five years, subject to suspension or revocation by the Secretary of Commerce and Labor for cause. It shall be kept where it can be shown in evidence of the holder's status as a radio operator and shall be produced upon demand.

SS. SEATRIN HAVANA

A CASE OF NEAR HARI-KARI

In the summer of 1937 I did a hitch on the SEATRIN HAVANA, one of three vessels which carried 100 freight cars from New Orleans to Havana to Hoboken, N.J. It was the first and only ship I ever was on which had a 115 VAC power supply.

The radio equipment was standard RCA gear of the period designed for use with 115 VDC. There was an AC/DC converter to operate the transmitters. As I remember it the receivers were operated with A and B batteries.

This was the first vessel I had ever worked on which was equipped with the AAS (Automatic Alarm System); it was designed for DC operation and provided with an electronic rectifier made, I believe, by Ward-Leonard.

One afternoon while slogging along the Gulf of Mexico I was taking my afternoon off-watch snooze when the alarm went off. Those of you who have been shipmates with the AAS know that the bell not only wakes you up but throws you out of your bunk and into the operator's chair. The bell also rang on the bridge and in the captain's room which means that you got it shut off and on watch instant!

It was as quiet as a tomb on 500 kc: practically no traffic at all. After listening for several minutes I called WNU in New Orleans, also Mobile and Tampa, to ask them if there had been an SOS or auto-alarm signal from anywhere in the Gulf. All of them replied "NO."

My next thought was to see what had set off the alarm; upon investigation I found that the rectifier system had gone kaput, and there was no DC for the AAS. What to do?

I knew it would be impractical to run the rotary converter continuously for the next couple of days: I just couldn't see staying on watch for the next 48 hours!

When I went in to dinner that night I asked the chief engineer what that rotary converter in the engine room was for. He replied that it supplied DC for the Sperry Gyrocompass in the chart room. I asked him if it could stand an additional load of another ampere or two; he replied that he thought it would. After dinner I borrowed a hand drill and a small bit and drilled a hole in the bulkhead, ran a pair of wires into the bottom of the gyro and hooked them up to the AAS. The little voltmeter went right up to 115, and when I closed the switch from the battery to the alarm bell it worked!

I sent a service message to RCA (or RMCA) in



WOULDN'T IT HAVE BEEN JUST AS EASY TO WAIT UNTIL WE DOCKED BEFORE TELLING THE CAPTAIN WHAT YOU THOUGHT OF THE WIRELESS EQUIPMENT?

FRED, I PROMISE, I'LL BE A GOOD CAPTAIN,"

USN. WW2 HARDACKER

Until late 1942 the CHICAGO had equipment for sea sonar search. It was unusual for such large ships to have this type of equipment.

-David C. Hardacker SOWP-3850; W7TO
ex: W6PIZ - 1938
WP9AS - 1951
W6IT - 1967

For those not familiar with Navy radio terminology, Dave Hardacker has furnished the following glossary:

A Radio Striker was a person just learning to be a Radioman. In general he was a person who had gone through a three month radio operators' school and had less than one year of duty aboard a ship. Dave believes a person had to have 18 months in the Navy before he was considered for taking the exam for the lowest grade of Radioman which was called RM3/c (Radioman Third Class). Above this there were two other grades. RM3/c would be expected to copy code groups about 15 wpm and plain text at 20 wpm. RM2/c, the next step up, would be able to copy faster and would have more knowledge about procedure, etc. RM1/c is the top of the line; he can hold down any circuit, usually can copy something like VCK press (at some 35 wpm or a few words behind) and was expected to be fairly sharp at maintenance. He would be in charge of all the Radiomen in a ship about the size of a destroyer. Above RM1/c there was a rating of Chief Radioman (CRM) who could do anything a RM1/c could do, must have had about a year of schooling in radio maintenance, and is generally in charge of a large radio gang in cruisers, aircraft carriers, battleships, shore radio stations, etc.

Prior to WW2 only one school was available to personnel desiring to be CRM. This was the Advanced Radio Materiel School, Naval Research Laboratory in Annapolis. One class of about 30 men was graduated each year. This school was also used by the US Coast Guard and US Marines. The flunkout rate was extremely high: in fact, just to get in was considered an honor. A vast number of personnel retired as RM1/c because they hadn't graduated from the school. In those days the terms "Radio Technician" and "Electronic Technician" didn't exist in the Navy; every one was a Radioman. Period.

The terms "Command" and "Commander" might be confusing to non-Navy people. Some ships were "Flagships," i.e., they carried an admiral aboard who did not have charge of the ship but rather had charge of a large number of ships. When one spoke of "Commander Cruiser Scouting Force," for example, everyone in the Navy knew which ship he had his "Flag" on, and which ships he was in charge of. Such Command ships had additional circuits which really had nothing to do with the actual ship. For example the ship call might be NAGM, while the Command call was MBT (for Commander Cruiser Scouting Force). Radiomen manning such circuits were hotshots called "Command" or "Flag" Radiomen. They were assigned to the Command or Flag, and not to the ship. In general a Command ship had additional equipment, additional Radiomen, and several Command circuits. Traffic was sent from the various Command ships, each with a specific call which was not a ship call. Traffic could also be addressed to the various ships in the command, e.g., NIPT NARKL NXXX NAGM v MBT.

"EB" CADY'S STORY

CONTINUED FROM PAGE - 1

Early days at KFS

The receiving station was located on a high ridge above Daly City, California. The transmitting station was located on the marsh land of San Francisco Bay, in the City of Palo Alto, about thirty miles away.

KFS was originally built and operated by Federal Telegraph Company of Palo Alto, California. It became active in Marine Communications shortly after WW-I. Federal had the manufacturing rights to the Poulsen Arc and KFS with its 25 KW arc ran up many long distance records with ships equipped with the 2 and 5 KW arcs.

A few years before I joined KFS, there had been a change in the corporate structure of Federal Telegraph. They had moved their marine equipment and sales division to New Jersey. Their communication systems, including coastal stations etc., were operated by Mackay Radio and Telegraph Company, an affiliate of ITT.

As mentioned above, KFS receiving station was now located on a ridge above Daly City. It consisted of two frame buildings about 300 feet apart. KFS' operating room was in the smaller shack. We had to call it a shack, of course, but it was quite larger than the quarters on shipboard. It housed the manager's office and receiving equipment for the low frequency arc receivers. At this time Mackay was handling domestic traffic between San Francisco, Los Angeles, Portland and Seattle. Long wave arc transmitters were used. Posters in prominent business areas of the above cities read: VIA MACKAY RADIO 15 WORDS FOR THE PRICE OF 10. LOS ANGELES SAN FRANCISCO PORTLAND SEATTLE. WE WORK WHEN THE WIRES ARE DOWN.

The last sentence drew smiles from radio men who worked with transmitters 30 or more miles away connected by...you know what.



A HF POSITION AT KFS DURING WW-2
SOWP MEMBER CHARLIE KESSLER ON WATCH



KFS "IF" POSITION SHORTLY AFTER WW-2.

- Historical Letters -

REPUBLIC OF THE PHILIPPINES
Board of Travel and Tourist Industry
REGIONAL OFFICE FOR WESTERN VISAYAS

October 9, 1972

His Honor, the Mayor
San Francisco, California
United States of America

Sir:

Sometime in October 1942, in the first year of the war between the United States and Japan, a crude radio transmitter operated by Filipino guerrillas in Panay, Philippines, sent out an uncoded radio message intended to reach General Douglas MacArthur, then commanding all Allied forces in Australia.

The message was sent with not much hope that it would reach Gen. MacArthur. It was not even known if it could be picked up in the welter of radio messages natural at the time. But that message did reach Gen. MacArthur and started three years of communications which proved beneficial for the Allied war effort in the Pacific and and the Filipino resistance.

We are engaged in the writing of this phase of our wartime history and desire to give due credit to Station KFS in San Francisco which picked up that first radio message in October of 1942.

We shall appreciate your kindness to refer this letter to Station KFS, if Station KFS still exists, so that we can get in touch with all KFS personnel responsible for picking up our message whose doing so had meant so much to us in those dark days of 1942 and continues to this day to be a significant item in our history. Should KFS personnel at that time be retired from the service today, may we request your good office to enable us to get in touch with them or with some of them? Please let us hear from you at your earliest convenience. Thank you very much.

Truly yours,

RODOLFO M. CLAPAROLS
Regional Director

REPUBLIC OF THE PHILIPPINES
Board of Travel and Tourist Industry
REGIONAL OFFICE FOR WESTERN VISAYAS

January 10, 1973

Mr. E. E. Cady
2330 Roosevelt Avenue
Redwood City, California 94061
U. S. A.

Dear Mr. Cady:

In his letter of December 28, 1972 in connection with our letter, a copy of which is enclosed, Mr. F. L. Dicome, manager, West Coast Corporations, ITT World Communications, Inc., cited you as one of the personnel of Radio Station KFS at the time of first contact with the Philippine guerrilla forces in the Philippines in October, 1942.

We are sending you the enclosed questionnaire with the hope that you will be kind to share with us what you know and tell us about your own personal participation in the event which we consider of the highest significance in our country's World War II history.

Much is already known about what our guerrilla leaders did to bring about contact with the United States. We propose to shed light on the as yet unrevealed role of Station KFS in it so that our history shall give Station KFS and its personnel the credit which we believe they deserve.

Please do not feel bound to answering the questions in the questionnaire which, after all, we offer only as guidelines. Should you find it convenient, write your version in any manner you desire. We shall display the Station KFS Papers at our museum in our city.

This may be quite a task for one now in retirement. We hope, however, you will pardon this request which we make in the interest of history and of truth.

Your work will reach us at the above address.

Truly yours,
RODOLFO M. CLAPAROLS
Regional Director

ENC/enc
Enclosure

This is the first time these letters, vital to the war-effort have ever been published. They document the part the personnel at KFS, under the direction of Mr. Cady played in a very "hush-hush" operation where the lives of many depended upon the expertise of the 'professional' operators and in turn helped to set the stage for the ultimate landing of General Mc Arthur in his return to the Philippines. America owes these men a deep debt of gratitude.



The second building contained high frequency receivers for the Point-to-Point Division. HF circuits were operated between San Francisco, New York, Honolulu, Japan and Manila.

Company headquarters occupied several floors in the Hobart Building on Market Street, San Francisco. All PT to PT receiving operators were in the main message center which occupied one entire floor. All domestic and foreign signals were tuned in and piped up to them by PT to PT personnel at Daly City. KFS, of course, tuned and copied their own signals. Each unit had an order wire and a wire call, thus: Hobart Bldg - "HB". Daly City PT to PT - "DC". KFS wire call "SA". Transmitting station - "MX". On order calls, one could use any code that came to mind but all message traffic handled between KFS and HB was strictly American Morse. This set-up between the receiving and transmitting units, was basically the same with all companies.

8 PM "TR" Report

Now for some of the services our coastal stations rendered the ships sailing speedily and sometimes albeit, wallowing and rolling, their way across our mighty oceans. I am certain that all old time marine operators will remember the famous "TR". For those who may not have encountered this little jewel, it was a ship's 8 p.m. position report given in miles from its destination. It was handled absolutely free and appeared in the morning edition of the leading newspapers on the Pacific Coast. These little beauties began pouring in to the coastal stations about 4 p.m. The deadline was 8 p.m. when they had to be in alphabetical order and on the wire to HB.

There was great rivalry between RCA and Mackay on these reports as each company was allotted space in the paper to fill. Operators who failed to get his little bird in his company's column got expert training in alibis. A potential source of revenue to a coastal station is the ETA message (estimated time of arrival). With her position showing daily in the newspapers free, why bother with an ETA? This eventually led to the "Deep Six" for the TR.

"WX"

Another very important free service is the daily weather broadcast. These are comprehensive reports, many taking up to 45 minutes to transmit and at least four broadcasts are made daily. Two hours of free press were transmitted by RCA and Mackay stations each day. Most stations have now discontinued service. These messages were given the same priority as distress and delivered to a U.S. Public Health facility by the most expeditious method available. During the many years I was with KFS, we handled many hundreds of these calls for help which ran the gamut of every form of accident, injury, and human illness. When it is realized that all the stations in the U.S. and most of the world perform this service, we can see the tremendous value it is to the men at sea.

"SOS" Calls

Of course the continuous guarding of the distress frequency by commercial and military stations around the world, plus the coverage by the ship operators, has contributed more to the saving of life and property at sea than anything to be discovered since the days of the Italian Senator.

Nothing else in the world will raise the hair on the head of a radio operator, whether he has any hair or not, than that dreaded signal - SOS SOS SOS. Most all marine operators have heard it and a great many have heard it - and it was they who were sending it!

In case of an SOS, the coastal station may be tied up for hours. Involved in it or not, all radio transmissions that might possibly cause interference must stop until the QUM comes out (Resume normal operations). I have seen distress incidents lasting nearly a whole watch.

In reviewing the above free services, one could be excused if he had some reservations before selling the ranch and cattle to invest in one of these stations.

"PG" Traffic

Well - it's true. Only a large communications company could afford to operate a commercial coastal station open to public correspondence. However, we did have our revenue traffic from the "love and kisses" type to the more lucrative steamship business and government.

We quoted our rates to U.S. vessels in dollars and cents. To all others it was gold francs and centimes. No one has ever rattled a gold franc in his pocket. It was a system of settling International Telegraph Tolls, worked out by the ITU.

To me, the work at KFS was fascinating. High frequency was supplanting the long waves and by greatly increasing our areas covered, resulted in a corresponding rise in our traffic. It soon became apparent our hill top perch was not suitable for high frequency antenna systems.

Mackay had been making tests of various locations and decided on a 230 acre ranch six miles south of Half Moon Bay, California. They were able to buy it. Building was started in 1932 and in April 1933 we moved in.

It was an ideal site on a high level bluff overlooking the sea. Plenty of room for a fine antenna system. The building was two stories with white stucco finish. KFS operating room and the station manager's office took up half of the lower floor on the seaward side. The rest of this floor housed the diesel emergency power equipment and shop for the heavier equipment for the riggers.

The second floor was taken up mostly by the receivers for the point to point operators and a small portion for an electronic shop where our receiving gear could obtain treatment when they stopped perking.

As we sat at our receivers, we could look across the water of the deep wide Pacific. This was our happy hunting ground, from the Arctic to the Antarctic - across to the shores of the Orient and Asia. Also into the mountains and jungles of those lands, as we will show later on. The only change made in this move was the call of the point-to-point operating room. It now became 'LO,' everything else worked the same, only the wires connecting us became longer.

The decade of the 30s was a very exciting period. High frequency communication was progressing rapidly. Many exploration expeditions of remote areas of land and sea were in progress. Aviation's greatest efforts to produce aircraft suitable for long distance overseas passenger service. Many long and hazardous flights were attempted. There were inevitable disasters. All radio stations were alerted to keep close watch on them. The most colorful were the big dirigibles. It was a thrill to work these big air liners. The most famous was the Hindenburg. One night, May 6, 1937, I was working a HF shift. At 11:30 a ship on the East Coast called me and said: "The Hidenburg is coming down in flames over Lakehurst!" This was the end of the big dirigibles. Too dangerous in storms, too slow, small cargo and passenger space and it took 130 men to dock her at Lakehurst. At the same time, Panam was testing the clippers on the Pacific. They were too slow and too heavy but they were pointing the way. Better engines, lighter ships and larger air frames.

In the Fall of 1933, Admiral Richard Byrd sailed from Boston for his Second Antarctic Expedition. He had two ships loaded with supplies and equipment including aircraft, snowmobiles, dogs, cows etc. His crew were all specialists in some form or another. He took the first radio broadcasting equipment to the Antarctic. He had arranged for a relay station in South America to retransmit to Riverhead, N.Y. What broadcasting system it was I cannot remember. Radio equipment was not what it is today and quite frequently his signals failed to get through. In case that happened, a copy of the program was telegraphed to KFS prior to broadcast time and this was used in lieu of the voice program.

I have forgotten to mention that Byrd was a shrewd bargainer and he had obtained an agreement with Mackay Radio to handle all of the Expedition's telegraph messages - free of charge! This included the "love and kisses" messages from all his crew to their families or friends scattered over all the U.S.! We never knew such a relative few could send so many messages. It had KFS and The Postal Telegraph Company - just about snowed! However, it was a thrilling experience to have a ringside seat at the daily adventures of this Expedition. The Admiral and his ships, and men and dogs and cows returned in middle 1935.



CADY—KFS

CONTINUED FROM PAGE 23

By 1941 American Morse had just about reached the end of the track and our Morse circuit to HB was replaced by teletype. No longer was it a requirement for our operators to be proficient in both codes. I had also been appointed Chief Operator and responsible for the operation of the station. Prior to this I had spent a great many watches on high frequency circuits. It was during those watches that I began to realize the great coverage given by coastal stations around the world. In every maritime country, high powered stations scan the marine bands twenty-four hours a day. It never lets up - operators sitting at their receivers - tuning, listening and working ships all over the globe. The lights in the operating room of KFS have never been turned off since it began operation. This is true of all the other major stations. I really do not believe it possible for any ship to ever be in a position where two-way communication with some of the stations could not be accomplished. Two-way instant communications between the victim calling for help and the station answering, is the major factor for success. This is where the coast station stands out. If he himself can't help, he can rustle up the air and get help.

Receiving Equipment Used

Our receiving equipment in 1941 was mostly SX28 Hallicrafters. We stacked three of these receivers, one on top of each other, and ganged their tuning sections so that all three could be tuned with one knob. Using split phones, we could listen to two bands - one in each ear when cruising or one in both ears when copying. Our greatest asset was our excellent antenna system which allowed us to pin-point most sections of the globe. Antennas could be selected quickly by rotary switches at each receiving position. Multi-couplers allowed the use of three receivers on one antenna without noticeable attenuation to signals.

At our I.F. position we had a receiver, the likes of which we were sure, has never graced the bench of any other radio station. This receiver was built by our manager, J.O. Watkins. I am sure all of you old timers who were involved in electronics in the Palo Alto area will remember him. No finer gentleman ever put on a pair of shoes and came out of the State of Oklahoma, or any other State - for that matter, than J.O.W. He built this receiver some time during the 1930 period. It was about three feet long, 18" wide and 18" high. None of us ever had the time to take out all the nuts and bolts that held it together. So we really never knew what was inside. We were told it had three stages of RF on the front and two IFs on the output. Anyway, this old rig was as hot as two sticks of dynamite hooked in series! We had a single wire antenna, about a quarter of a mile long, and a spare, in case the antenna birds roosting on the long one broke it down. Of course, with all that soup on both the input and out-put - coupled with that long antenna - our old receiver brought in some other things too. During the 1930s the build-up of congestion in the frequencies allotted to marine communications, like the congestion on our highways - was threatening the life of our old receiver.

It could not be said that selectivity was one of its stronger points. However, by 1941 a reverse trend was very noticeable. The European war was becoming more bitter. British Empire Shipping was on radio silence, also Germany and Russia. Wolf packs of submarines and surface raiders, plus aircraft, were roaming the seas and the skies. Even neutral shipping was chary about opening up on 500 KHz. This band was quieter than any of us had ever heard it. Our old receiver was in her prime again.

Over in Palo Alto we had a block buster intermediate frequency transmitter. It was not a rack and panel job. The transmitter men called it a composite arranged transmitter. It was housed in a steel cage similar to one used by the zoo to hold a baboon. At first glance, one could not be quite positive that a baboon was not in there! Baboon or not, that transmitter could rustle some waves of its own over the surface of our big ocean. We called the old rig, Oscar. Of course there were times we had some other names for it. Like us humans, Oscar had its ups and downs.

PEARL HARBOR

On the morning of December 7, 1941, the day crew arrived at KFS. Outside the building it was 6 a.m. Inside it was 1600 GMT. All of our operations were made under Greenwich Mean Time. Wherever possible in this account it will be given in local time.

The day started and both high and low frequencies were very quiet.



"KFS" IF position today. The blackboard with call-letters, reminds the operator these ships are close and should be 'tickled up' frequently on 500, lest they QTP without docking orders, etc.



The "HF" position at KFS of recent date.

At approximately 10:50 a.m. the operator on the 500 khz position heard a clear signal: "SSSS SSSS SSSS (submarine sighted) de SS Cynthia Olson." She gave her position in longitude and latitude which put her 750 miles southwest of Seattle, Washington.

On December 6 at 12:01 a.m., the S.S. Lurline had departed from Honolulu bound for Los Angeles. She now was about 1300 miles southwest of San Francisco. She picked up the SSSS and acknowledged it to the Cynthia and said, "Is the sub surfaced?" Cynthia answered: "Yes .-... (wait) --SSSS SOS SOS SOS posn --" Her signals faded slowly away.

The Lurline made several attempts to contact the Cynthia. There was no reply. Nothing was ever heard of this little steamer, or her crew again. The Lurline then tried to contact NPM, Pearl Harbor, NPG, San Francisco, and NERK, collective call of any navy ship or station without success. The signals from the Lurline/KIEK and the Cynthia Olson were clear and readable at KFS, KPH, and KTK. As a regular procedure, they were relayed to Navy Communications, San Francisco.

While these events were taking place at sea, we all know what was happening at Pearl Harbor. If you need a refresher on this, read the article in Sparks Journal, Vol 2, Number 4 - "A Rendezvous With Fate" by Lt Cmdr R.L. Simpson. He was there! KFS learned of the bombing a short time later - by what means I don't remember. Shortly after this the Navy gave KFS a msg directing the Lurline to proceed direct to San Francisco. They also direct us to shut down our automatic identifying tapes on high frequency and for the time being to make no further transmissions, unless directed by the Navy. Many ships were in dangerous locations. The President Harrison was docked in Shanghai and the Standard Oil Tanker, J.C. Fitzsimmons, was in the middle of Korea Strait, in the Sea of Japan, bound for Pusan. Neither in what one could call, a cozy spot! Well - the Harrison didn't make it, that was the end of her. The J.C. after some of the most spectacular dodging - made it home. The operator on there, if still among us living, could probably tell us quite a tale of that crossing. Those were just two out of many hundreds.

CONTINUED ON PAGE 25

CADY-KFS STORY CONTINUED

Our merchant ships have always received their advisory messages, warnings, etc. from their Country's coastal stations. Shortly these war warning messages began going out by our coastal stations. For a short period, they came in clear language and advised each ship to put into effect "Plan (?)¹" immediately. This "Plan" was supposed to have been locked in the Captain's safe to be used in case of war. Included in the Plan were the War Calls of the ship and a code to be used instead of clear language. Vessels not in convoy, in some cases, if sinking, or in life boats, could report their positions in the clear, but in no case the name of their ship. They could indicate enemy sightings by these symbols: SSSS -submarine sighted. RRRR -enemy surface craft. AAAA -enemy aircraft. QQQQ -mines. If any of these symbols were followed by SOS, it meant they were being attacked. Too many times this was the last signal ever heard from this ship. If they were lucky the next signal would be from their life boat. We picked up hundreds of these lifeboat distress calls. Before the war was over we tipped our hats to our old TRF 500 KHz receiver. It had been cursed and dammed many times when QRM was bad. Now it was simply incredible the distance this old box could reach out and gather in these calls for help. We had no way to keep score but we felt that many lives were saved by being able to respond to these calls and alert possible rescue operations.

When plain language was ruled out for advisory broadcasts, five letter code groups were used. They were called BAMS and carried indentifying date-time groups and msg numbers. We never knew what BAMS stood for but we guessed Broadcast American Merchant Shipping, or Allied Merchant Shipping. Anyhow you fellows who were out on the drink during those days remember those BAMS.

As the war drew on with radio silence in effect for all ships and all messages subject to censorship on radio station circuits, the revenue of coastal stations was non-existent. Many of them began to close. By middle 1942 most of Mackay Radio's stations were open, especially WSL and KFS - were running with a full staff. All frequencies were covered 24 hours per day.

Strange Signals

In late August 1942, KFS began hearing some strange signals. They made no sense but sounded like someone testing a small transmitter. They were very weak and according to our antennas, were in the area of the Philippines. Needless to say, we kept a sharp lookout on that section.

The events following are drawn from memory and may not be exact as to dates. The only remaining operators attached to KFS at that time were Paul Hillsman, Atherton, California, and myself. The rest are silent keys. The members who became silent keys down through the years were: Charles G. Barton, Fred Czgavske, C.H. Kesler - SSGP95, William Mattes and Ben Springer.

Hillsman and myself have tried to piece the events together.

Toward the last of August, or the early part of September, Arthur H. Hart - 1068 SGP, one of the receiving operators in the point-to-point section, was tuning around looking for a signal for his section. It was in the wee hours of the morning. He ran across a very weak signal calling: WAR de KAA. War was the collective call of any army radio station, and KAA was the call of RCA's station in Manila, which long since, had been demolished. Hart told KFS what he was hearing and KFS tuned KAA in. It soon became apparent that WAR was not hearing KAA. The operator at KFS called the Communications Watch Officer at NPG, told him what was happening and suggested he tell the Army to alert the WAR transmitters that were on the air. Tell KAA to listen to KFS, we could hear him and read him.

We believe the Army did this, and KAA heard them, because he broke off calling suddenly - right in the middle of the letter E, as the saying goes. Nothing more was heard from him the rest of the night.

Contact with the Guerrillas

About 3 a.m. the next morning, we picked up KAA calling KFS on about 83.3 KHz. Instant communication was established. The Navy had given us permission to work directly with the Army on this mission. The Army advised us to accept all communications from the station, acknowledge it and agree to another schedule, but to make no further transmissions on our part. The short QSO ran about as follows:

-KAA de KFS - "GM QSA 2 but QRK K" (your sigs are weak but we read you ok) KFS de KAA - "GE This is George Gould we are a bunch of guerillas in the mountains of Northern Luzon we have a breadboard xmtr and recvr which we carry on our back. The Japanese are mostly in the cities and along the coast but there are places

along the northern coast where it would be safe for a sub to land. We need everything. We want smokes but our direst need are shoes ._._. K

de KFS "R R R QSU tmw?" (see you tomorrow?)

de KAA R R R.

This little message was the first word to come out of the Philippines since the occupation by the Japanese.

When General MacArthur, in his headquarters in Melbourne, Australia, was handed this small dispatch, he said it filled him with profound joy and hope. He now knew the Philippine people would battle on with him until the enemy had been driven from their shores.

Contacting George Gould

We found out - right now and in the three years we worked with them, that these army people would not accept the word of one of our Lord's Disciples, without iron clad corroboration.

They asked us if we knew this George Gould. We said: "Mackay Radio's Manila Manager was named Gould and we believed that this was him." No time was lost and very soon they contacted Gould's sister in the middle west. The next night they were down for some questions for Mr. Gould. They gave us the list and sat down to hear the answers.

KFS - "Do you have any relatives in the U.S.?" KAA - "Yes"

KFS - "Is this George Gould at the key?" KAA - "Yes"

KFS then sent him the following questions - one at a time, and he answered them one at a time.

What is the name and address of your nearest relative in the U.S.? Have you been in contact with her? Was there anything in her letter that gave you concern?

KAA - "Yes, she said her daughter was quite ill. I was concerned about this and wrote her but no more letters came through."

KAA de KFS: R QSU (Then we slipped one in) "Yr niece is ok."

Army was satisfied and instructed us to maintain contact with KAA. This contact with KAA was of very short duration, lasting less than a week. In his last short dispatch he gave some more information on enemy distribution in Northern Luzon and their dire need of supplies. He said his group had to keep on the move but to keep listening for them. This was the last heard from KAA. We learned later they had been captured. Some were executed and some were taken prisoner. Gould was among the latter and spent the rest of the war in prison camp.

There was a short period of silence. Then about 5 o'clock one morning, a very weak signal came calling KFS de WPI. We answered and within minutes we were in business. We had another contact. The next step of course, was to run them through the wringer! WPI asked us to contact Fred Roebuck or Jim Chambers, as they could identify them. They also gave their location as Luzon. Fred and Jim were well known to us but we had no idea where to find them. By naming these two fellows, we felt sure that WPI was connected in some way with Globe Wireless. Before the dust settled, we had this new dope up to the Army. The next evening two officers from the Presido arrived to spend the evening. One was Col. Irv Kauffman, who prior to the war was a radio telegrapher for Globe on their SF-Manila circuit. He was well known to all of us at KFS. WPI came in on schedule. We turned the key over to Irv. He sat down and said: WPI de KFS ditdada dit-dit?" The answer came right back: "DC ditdada dit-dit?" Kauffman said; "This is Irv." KFS operators, listening to this, thought Kauffman displayed a stroke of genius in his opening remark. On point-to-point radio telegraph circuits, an operator wishing to know who was on the other end said: wo? He always rendered the o in American Morse. If WPI had shown any hesitation in knowing what it meant, he would have been under suspect to start with.

It happened that DC and Kauffman were old friends. They chatted over a few office incidents in which both had been involved, when suddenly Kauffman said: "What did you do with that motor bike?" DC replied: "We sent it back to the dealer." Only DC and Irv knew what had happened to that bike. Of course, that cinched it. It was many years later that we learned who DC was. Mr. William Phillips - SGP-1038, was manager of Globe Wireless in Manila at outbreak of the war. At one of our luncheons, Mr. Phillips told me that DC was an operator in his staff on the Manila-San Francisco circuit. His name was Domidor Caluen. Bill said, Caluen was very active in the guerrilla movement and was capable of building equipment out of anything he could beg, borrow or steal - even the tin cans off the junk heap! Bill himself was involved and I am sure he could write us a little article that might raise a few sparse hairs on the heads of some of us spark gap pioneers!

CADY—KFS STORY CONTINUED

This short exchange between Caluen and Kauffman identified WPI and we began two way communication. They were more valuable than any of the stations we worked, before or after. They continued to give us areas where it would be safe to land subs. The military took the attitude that these areas, sent out in plain language, would be locations they would keep well clear of! They advised WPI to be cautious.

Several years after the war, Hillsman met a lieutenant from Leyte who had been with WPI. In talking over some of the happenings, he asked Hillsman if he was the guy: "Who told me to shut up?" We maintained nightly contact and received considerable information of distribution and number of enemy troops in the Luzon area. A valuable report was of the fine morale of the Philippine citizens under enemy control. Our contacts with WPI suddenly broke off and we heard no more from them.

Of necessity, our contacts with the guerrillas were short and terse. They were in great danger with every tap of their key. They never gave any specifics of their exact location; numbers or anything that might give some help to the enemy in their search for them. We never asked them any questions. We made every contact as short as possible. So, when they ceased to contact us, we had no idea what had happened.

I am now going to quote from a book which will explain, from the Philippine end of the line, what happened to bring about a complete change in our communications with the guerrilla forces. I believe it is more interesting to hear it from their end because that is where the action was.

Dr. EDMUNDO REYES

The title of the book is: A History of Amateur Radio in the Philippines. It was written by Dr. Edmundo Reyes of Manila. It is a very interesting book for all Amateur Radio Operators. Dr. Reyes is not only a practicing physician, but is an avid ham. His call is DU1OR. He is also a TA (Technical Associate) in our Society of Wireless Pioneers. He has given me permission to quote from his book.

On page 65 he says: "...Soon after the retreat to Bataan, my brother who belonged to a guerrilla unit requested me to donate two transmitters for the use of the USAFFE. Following instructions, I placed at their disposal my rack and panel 150-W rig (the one from M. Carson, KA1MD) and a QSL-40 type homebrew low power portable, together with a 300/220 mil M.G. designed to be run by 12-v storage batteries." Dr. Reyes then relates that after the fall of Bataan the Japanese confiscated all of his radio gear. He then built from "junk" a receiver with which he could hear KGEI (The Voice Of America). This was their only contact with the outside world. Dr. Reyes resumes with a chapter titled: "THE FALL OF BATAAN"

EBEN K. CADY—MR. "KFS"



RECENT PICTURE OF "EB" CADY WHO SPENT OVER A THIRD OF A CENTURY AT "KFS", FIRST AS OPERATOR THEN AS MANAGER OF THIS WELL KNOWN STATION. HE HANDLED HUNDREDS OF SOS AND EMERGENCIES DURING TENURE AT KFS BUT THE ONLY ONE HE PERSONALLY PARTICIPATED IN WAS THE SOS FROM THE STEAM-SCHOONER WILLAMETTE IN 1922. HE IS AUTHOR OF THIS STORY.

WHEN CORREGIDOR FELL

"On April 9, 1942, Norman Reyes made his valedictory broadcast from Corregidor and announced that Bataan had fallen. Most of us with headphones on our ears, sobbed and cried like children when we heard Norman finish his great epic...

Now our only ray of hope came from William Winter in far away San Francisco (KGEI) whose broadcasts we religiously listened to every evening. Like never before, now we really felt forsaken, perhaps forgotten. But no, Winter with a clear reassuring voice was giving us the kind of news we hungered for...we took notes of the news every day and handed them to others who did not have receiving facilities, or merely told them at lunch time. Frank Swan, our last Philippine Amateur Association President, was interned at St. Joseph's Hospital only a few blocks from my own clinic. He had me called almost every day because of his throat. (Ever since I met him, he had a hoarse, "smokers" or "preacher's" throat; outside of that, nothing was wrong with his throat.) The visits consisted in discussing the latest views and news."

Dr. Reyes then gives several pages of interesting accounts of the Japanese occupation in Manila. On page 71 he says "I shall now end this report of liberation in our area, and shift the reader's attention to some interesting narrations of the Japanese occupation in the provinces with special emphasis on war-time communications with America and Australia." He then quotes an extract from a book "THE WAR IN PANAY" by Jose Doromal: "In late 1942, a conference of the reorganized 61st Division decided to organize all the Visayas Guerrilla Forces into a single coordinated command...the new command was designated as the IV Philippine Corps...covering the islands of Panay, Romblon, Tablas, Masbate, Negros, Cebu, and Bohol.

Lt. Col Marcario Peralta, Jr. assumed command of this unit and designated Capt. Amos Francia, former Divisional Signal Officer of the Panay USAFFE as his Chief Signal Officer.

By the end of October 1942, a transmitting set assembled from spare parts stolen and smuggled from the Japanese occupied Iloilo City was ready for testing and was tuned on the 8.3 mc band by Capt. Francia and his team and was operated by Lt. Mariano Tolentino, Incentes Donesa, Salvador Nacionales, and Ismael Vito.

KFS contacts WPM

They transmitted "Free Panay Calling de WPM", repeatedly and before long, their signals were picked up by station KFS in San Francisco, which immediately replied and established test signals. Immediately Col Peralta transmitted several long plain language messages intended for General MacArthur and for President Quezon...KFS promptly acknowledged the messages and relayed them to the War Department and to President Quezon, without sending any further reply. The reason was that the War Department did not know whether WPM was coming from genuine guerrilla forces or were decoy signals sent under instructions by the Japanese. Therefore, KFS subjected WPM to a veracity test and instructed them to find KAZ (Gen. MacArthur's Australian Command on 8.3 MC band). Hereafter no more plain language communications were permitted lest they betray information of military value to the enemy.

Peralta had saved the Signal Corp Device M-94 but this code was useless unless a key word known only to both parties was employed. In order to establish the key word with the minimum risk of enemy interception, and at the same time test the authenticity of the Free Panay station, the War Department sent Peralta a coded radio message accompanied with the following instructions sent in plain language:

Break the coded message using as key word in combination cipher device Mike nine four (M-94) followed by double transposition the name of place where President Quezon and Governor Confesor last dined together.

THE "KEY" FOUND

The search for these key words lasted almost one month because Peralta's courier to the HQ of Governor Confesor in Negros Island was suspected of being a spy and thrown into jail for not speaking fluent Visaya (he was a taglog). Peralta did not know the name of the spot mentioned in the message from the War Department. He and his teammates tried several names of places but these were the wrong words. Peralta was almost desperate until a G2 Officer from Negros whom Major Francia questioned if he knew the place where President Quezon and Governor Confesor last met each other. The G2 (Lt Ykalina) answered that it could be 'Panubigan Estate' in Negros since he knew that



CONTINUED - NEXT PAGE

THE "KFS" EDITION

—KFS STORY—CADY—CONTINUED—

that was the last place where the President had met Senator Ramon Torres of Negros and probably Governor Confesor too. Major Francia applied the word 'Panubigan' as key word to the M-94 and it proved to be the right key word."

To continue with Dr. Reyes account --- Thereafter exchange of messages between Panay and Australia became practical and resulted in the delivery by submarine of much needed supplies in the form of rations, arms and amunition, and portable signal equipment, medical supplies, and cigarettes.

The solving of this puzzle was turning point in the resistance movement. It brought a ray of hope from across the seas which time and again revitalized the spirit of those who remained loyal to their country in her darkest hour.

The first coded message was in itself worth all the painstaking effort to decipher it:

TO PERALTA CAN YOU RENDEZVOUS A SUBMARINE
QUERY IF SO NAME FIVE CONTACT PLACES IN
ORDER OF PREFERENCE

The preceding article by Jose Doromal relates, in very condensed form, events happening to the guerrilla war from October 1942 to December 16, 1944. It is related here because it clears up some aspects which were puzzling to KFS. Apparently the sudden two weeks of silence separating WPI and WPM was caused by the reorganizing of the guerrilla forces in Panay. Also we did not know where that M-94 came from.

KFS operators believed that WPM was camped on our frequency when making that call because he responded instantly when we answered.

The signals from WPM were better and he could send quite rapidly. He lost no time with several lengthy messages dealing with the morale of the people under Japanese occupation, a concise report on the disposition of enemy troops, an estimated number in the Visayas area, and a plea for supplies of food and amunition.

The entrance of WPM brought a well-organized group of guerrillas and reliable two-way communication with the United States. But its usefulness was seriously endangered by the necessity of transmitting all dispatches in clear language. It was **learned that WPM had in their possession a coding device** but were unable to use it. They lacked instructions and the code word to set it up for two-way operation. This brought to the officers in charge of the mission the necessity of making an

extremely dangerous decision. Could they instruct these people, somewhere in the Panay area, how to use the device with the necessary code word - in plain language - without the enemy also working it out? It is inconceivable that the Japanese were not monitoring all of KFS's transmissions.

However, the mission was of such vital importance to the war in the Pacific that the military decided it was worth the risk and we were handed the message which appears in the quoted article from Doromal's book. It was transmitted at once with the coded message and instructions: that no more transmissions be made in the clear.

A long period of frustration followed. Peralta, nor anyone else in their group, could come up with the word. Many futile guesses were made and with each failure they became more and more despondent.

THE USCG TAKES COMMAND

In the early part of December 1942, some changes were taking place involving KFS. The U.S. Coast Guard had completed negotiations with Mackay Radio for the take-over of operations of the marine stations receiving sections of WSL-New York, KFS-San Francisco and KEK-Portland, Oregon.

The KFS marine operators were: Charles G. Barton, Eben K. Cady - SGP-54, Fred Cezgavske, Paul Hillsman - P-505, C.H. Kesler - SSGP-95, William Mattes, and Ben Springer. All of us, with the exception of Czgavske, joined the Coast Guard. We were given Chiefs ratings and assigned our regular KFS positions. As I was chief operator, I was made Chief Radioman in charge. Al Holgerson - SGP-173, better known on our nets as W6OFL and his assistant, Rene Gaspar were the technicians who kept our equipment perking.

During these negotiations, we continued to keep in contact with WPM. Despite the Army's ban on plain language, WPM did complain in some very plain language about no word from headquarters. All we could say was: keep trying.

"MAGIC WORD"

My memory may not be 100% on this but I believe it was in the latter part of December 1942, a coded message came in from WPM. It no sooner hit the desk of the decoding officers than a whoop of joy went up! Those brave men hiding in the jungles of Panay in peril of their lives with every move they made and with every dit and dash they sent, had come up with the magic word. The message decoded perfectly.

Now the value of communications could be realized and traffic began to roll.

General MacArthur had constructed a radio station in Brisbane, Australia, using the call KAZ. They had been calling WPM before notifying us and we didn't know who they were. Whether WPM heard them or not, he did not answer. Soon, however, we were instructed to inform WPM that this was MacArthur's station in Australia and they should make contact which they eventually did.

Traffic now began to roll to both KAZ and KFS. January 1, 1943 KFS became U.S. Coast Guard Radio Station KFS. We were a unit in their Air Sea Rescue Communications Net. We were directed to continue working with the Army on the Philippine mission.

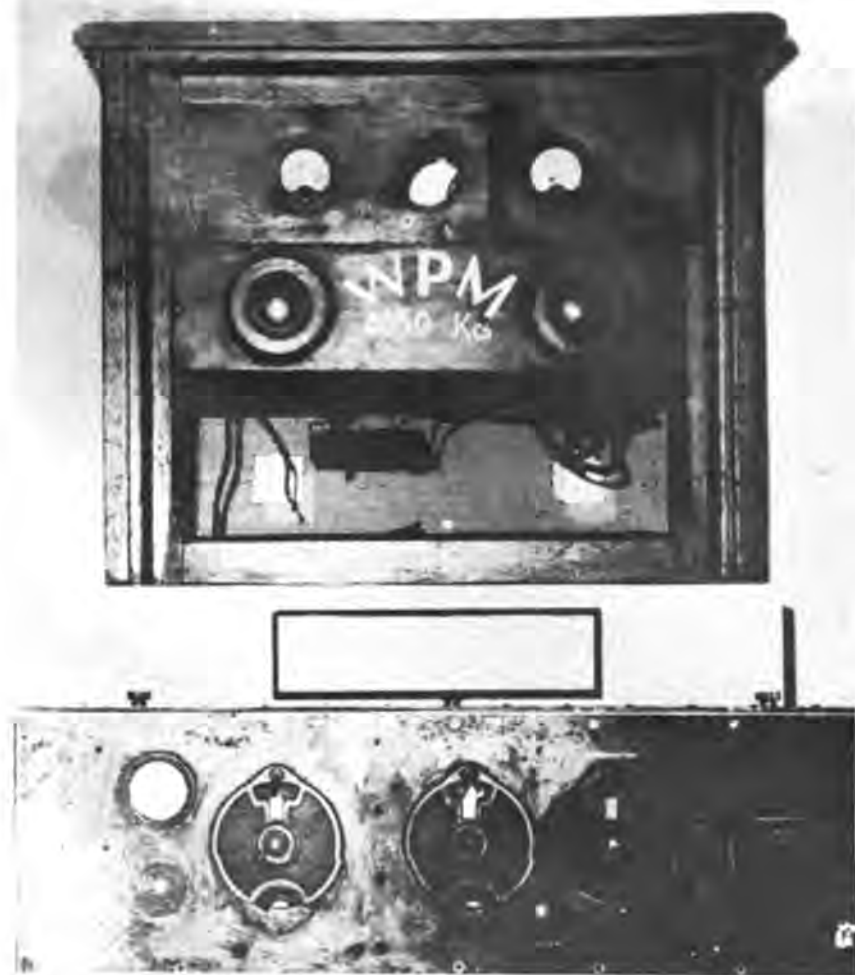
During January and February, guerrilla contacts in other parts of the Philippines increased and of course, so did the traffic. Because many of these messages involved contemplated submarine landings, it was vital that all messages be copied correctly and transmitted to the military as quickly as possible. As the war drew on, more guerrilla contacts were made and these had to be closely monitored. Some of them were not on our side! The fighting in the Pacific was reaching a bitter tempo. Our Coast Guard duties were increasing as the Air Sea Net was being extended to reach from Nome to Panama. A lot of things can happen in a line that long. Yes sir!

The Coast Guard augmented our crew by their radiomen but there were just so many we had room for. We felt that KAZ could relieve us of most of the load but we got a jolt on this! Washington wanted KFS to copy all traffic handled between KAZ and the guerrilla forces. Both ways! This would really hinder our Coast Guard work and a great deal of our chores dealt with distress.

THE ARMY MOVES IN

Someone got the picture. May 1, 1943 we were notified that the Army would send down their own men with receiving equipment. Arrangements had been made with our transmitting station for transmitters. The equipment arrived; receivers, keys and teletypes. They were placed wherever there was a vacant spot. The

- CONTINUED - NEXT PAGE -



WPM RESISTANCE TRANSMITTER AND RECEIVER ...

Rig built by Captain Amos Francis and Lt. Nationals. Receiver, early RCA Communications Superhet. Set was successful in contacting KFS in San Francisco and KAZ in Australia. Messages relayed to General MacArthur via KAZ and to President Quezon, Washington D. C. via KFS.

—KFS STORY—CADY—



room was already full of men and equipment and finding a vacant spot was no easy task. I am sure KFS technician, Al Holgerson, would be willing to sit down and sign an affidavit that I tell the truth. One had to pick his way carefully, lest he get tangled up in cables on the deck and other things. Three operating positions were set up and on May 21st the operators arrived. These operators had been trained at Fort Monmouth to copy five letter code groups. They squeezed their way, shoulder to shoulder with us. Within a few days they were ready to take over. If they ran into any snags, help was not far away; just a few inches to be exact.

By this time the Philippine Net had been developed into a smooth coordinated circuit, covering the Panay and Mindanao areas. I cannot remember the call letters of all of them. On April 30th, a submarine had arrived off shore of Pandan, Antique, and very shortly afterwards signals from down there increased in strength. Many submarine landings were made in the Panay and Mindanao areas and possibly in Luzon. Tons of needed supplies...arms, ammunition and medicine landed. Quite a number of Americans evacuated to Australia.

Our Philippine circuit continued until December 16, 1944 with the liberation of their country.

Thus ended what one of the military officers described as the outstanding espionage of an entire country under enemy control to come out of WW-2. How these brave forces, in constant danger, were able to accomplish what they did is miraculous!

General Mac Arthur had asked the guerrillas not to engage in acts of violence or sabotage. He said this only brought reprisals upon the citizens and increased enemy efforts to capture the guerrillas. What he wanted was information. And this is what he really got.

RETURN TO STATUS QUO

On January 1, 1945 the original KFS staff members were given Honorable Discharges from the U.S. Coast Guard. KFS soon resumed its role as a U.S. Commercial Coastal Radio Station open to public correspondence. It is still there in the same place, doing the same things. Like all other coastal radio stations around the world, it has responded to calls for help of every description but never before had any of us fellows ever answered a call for help from an entire Nation. KFS was able to answer this call and provide communications which not only brought them aid but gave them a means through which they could make great contributions toward their own liberation and to the eventual winning of the war in the Pacific.

KFS received a great deal of help from the "Up-stairs" men at the Mackay station. Among those who are still alive and kicking are: C.R. Ferguson, of Half Moon Bay; Arthur Hart, of Mena, Arkansas; and Al Holgerson, Half Moon Bay, better known as W6OFL (old fog lover). These fellows are all SOWP members.

Two other members not associated with Mackay Radio I would like to thank for giving me a boost are: Frank Geisel, Manager of RCA's KPH, a stiff competitor of KFS, but a life-long friend of mine who alerted me about Dr. Reyes' book, and Thorn Mayes, Technical Adviser to SOWP, who had a copy of the book and loaned it to me. And of course, my thanks to Dr. Reyes and Jose Doromal for allowing me to quote from their books.

During my 34 years at KFS, I enjoyed every minute. When a person can earn his living and raise a family doing something exciting and enjoyable, he is a lucky cuss indeed!

REMINISCENCE OF AN OLD TIMER

What a great outfit - SOWP!! I shoulda joined long ago - just too busy. I belonged to 10 other organizations, mostly local, which kept me busy day and night while building a new house and starting a new business and unpacking boxes and boxes of stuff stored for the past 20 years or more while we traveled from country to country for the State Department.

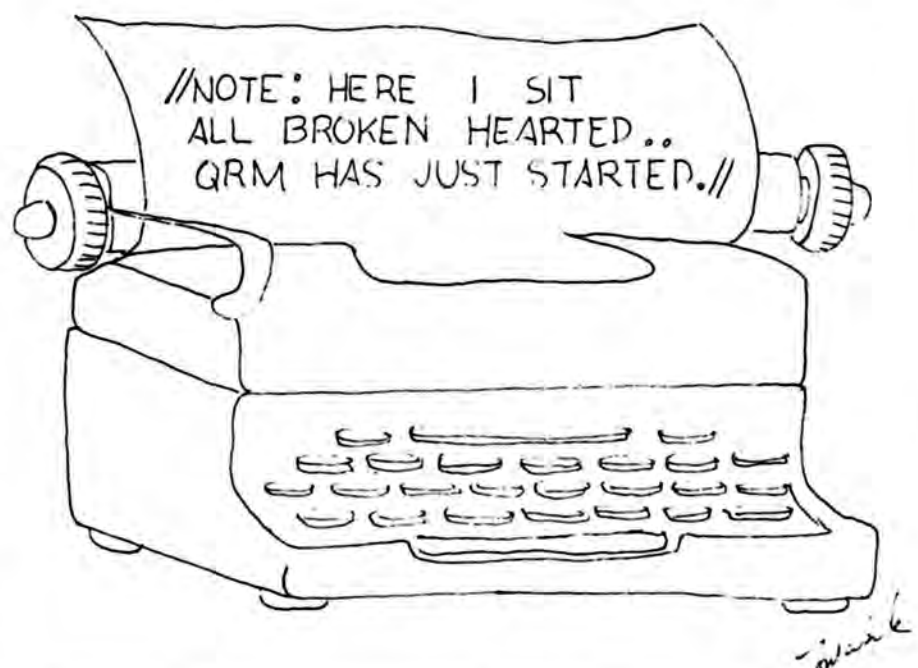
I see so many familiar names in the membership - just in that last Yearbook. Tommy Nugent, who joined the Union when I came aboard the California as an ARTA organizer; Viggo Henry Conrad-Eberlin, III, who was at the plant in Opa-Locka when I worked at WAX in Hialeah, Fla.; Karl Baarslag of the yacht Vagabondia and other yachts, still working to alert the country to the Communist menace; Fred Roebuck, who came aboard in Shanghai with the first Heintz & Kaufman shortwave transmitter in the Dollar Line when I was Chief on the President Polk in late 1929. We installed it and worked Manila all around the world until we got near N. Y. They took it off in N.Y. and installed it at Garden City, L.I., as a start for Globe Wireless in N.Y.

Where's Joey Raspiller, my Junior on the Polk, who was later on the President Johnson and KUP? "Pete" Fernandez, Sup't of Communications for Pan American Air Ferries, who sent me out trip after trip ferrying 2-engine bombers to the Russians and RAF across the South Atlantic in wartime as Radio-Navigator, which was mostly Radio; was with Bennie Beckerman on the Jefferson of the Old Dominion Line to Norfolk between bigger assignments; Oscar T. Harrison, genial Junior when I was Chief on the maiden voyage of the City of Baltimore, Mackay's new radio contract with the Baltimore Mail Line for the 5 new ships, although the Line didn't last long; Charlie Hess, fellow opr at WSC when Tuckerton was the busiest station on 600 on the East Coast back in 1930; "Bill" Fenton, Chief of the Manhattan when I was 2nd with him on her first year, with Eddie Rocks "Roxy" as 3rd; Johnny Walter, 2nd on the new Washington with me as Chief, and later Chief when I finally decided there was no future in spending the rest of my life as Chief on the biggest ship in our Merchant Marine at the time - I'd never get married and would never find out what life ashore was like. So I quit and went up to Maine to get a job in a lumber camp.

Life was all new and exciting after that. Dick Schell at WPR in Puerto Rico when I was on WTA in 1927 - the New COAMO of the Porto Rico Line, not the old one pictured in 1977 Yearbook; Howard and Paul McElroy, who used to take turns on a freighter out of Boston for Hamburg, so each trip one brother went to Germany for a bash while the other had a month off at home, and then there was their brother, Ted, code speed champion of the world; Charlie Maass was one of the group of well known oprs about that time which included Pickerill & Sinclair of the Leviathan, Von Thun, Cerio, and Kennedy of the big George Washington with her tremendous arc set, George Kolbe, Mike McDonough, Roxy, on those same ships like the America and Republic, Ken Upton and Charters on the Pres Roosevelt, Don Shaw of the America or Republic and later Chief on the Pres Harding when I was there and my Chief on the Minnekahda also; Virgil Cornelius and many others of Unifruitco and other ships who joined the ARTA when I was New Orleans organizer before I turned the job over to Jim Crony . . . the list is endless.

Although it is sad to hear of the passing of so many of us - we are still lasting longer than the ships - how many of the old ships are still afloat? Not many, for sure, even under Greek or Italian registry - most were scrapped or sunk long ago. Have many old steamship postcards to exchange with anyone who collects them.

--Don Thomas, 1340-P





Robert L. Scheina

At sea, the captain and the law were synonymous. Martyrdom was the only reward for the individual who opposed injustice. This is illustrated in American literature by Herman Melville's novel *Riley Budd*. However, the system could be challenged if there was strength through numbers, and if leaders could be protected by concealing their identity. Immunity was achieved by the "round robin." Signatures on a grievance petition would appear as a circular pattern of ribbons similar to the spokes of a wheel. The robin is derived from the French *ruban*, or ribbon. Hiding the identity of the leaders within the circle of signatures may be the origin of the term "ringleader" as well.



Going ashore was in fact as well as name, liberty, and sailors had the reputation of taking full advantage of the relaxed discipline. "Catting around" is a colloquial expression meaning frivolity. Richard Henry Dana wrote that 'cat' used as a verb means "to hoist the anchor up to the cathead." In order to raise the anchor, hickory bars were inserted into a capstan, a spool-shaped cylinder; and like children on a merry-go-round, the men strained around this apparatus. This may be the origin of "catting around."

Mariners, being the chief patrons of seaport pubs, were often extended credit. A tally board was kept of the pints and quarts that a sailor consumed. The quartermaster of the ship, who was responsible for having a full crew for the next sailing, did well to remind his charges to "mind your P's and Q's," since this equated to their consumption. And, of course, sailors would have to toast the drink with "down the hatch." If a mariner consumed too much alcohol and became intoxicated, he would be "three sheets to the wind." A sheet is a line used for trimming a sail to the wind. Three broken sheets would render any sailing ship uncontrollable. "Loaded to the gills," yet another nautical expression relating to drunkenness, infers that the individual "drank like a fish."

There are other expressions relating to relaxing of discipline on board ship. A number of these utterances have lost both precise statement as well as meaning. Consider "shake a leg." Originally "show a leg," this was the cry of the boatswain's mate as he turned out the new watch on board eighteenth- and nineteenth-century British warships. As an incentive to mariners not to desert, they were permitted to have women, ostensibly wives, on board while the ship remained in harbor. Showing a leg was a means of identification. The practice of having women aboard Royal naval ships was not abolished until about 1840. Not surprisingly, the end result of this accommodation was a "son of a gun." Below-decks in a warship were very crowded and the gangways (passageways) had to be kept clear. The only place where a woman could give birth was between the guns. Such circumstances were the subject of sea chants:

*"Begotten in the galley and born under
the gun.
Every hair a rope yarn,
Every tooth a marline spike,
Every finger a fishhook,
And his blood right good Stockholm tar."*

Sea Language Washes Ashore

BY PERMISSION U.S.COAST GUARD

*"I must down to the seas again,
to the lonely sea and the sky,
And all I ask is a tall ship
and a star to steer her by."*

—Salt Water Ballads

CONTINUED FROM BACK COVER

Originally, the term "son of a gun" questioned the legitimacy of the birth of an individual. Another colloquial expression which has unpleasant connotations is "flotsam and jetsam." Flotsam are goods swept overboard and floating in the sea. Jetsam are goods deliberately thrown overboard when a ship was in imminent danger. Thus, together they are the undesirable elements of society.

"shake a leg"

Utterances against the devil are wails of frustration. However, the mariner's devil was not the anti-Christ, but was a particular seam, a narrow gap between planks, one on each side of the ship just above the waterline. This seam--christened the devil's seam--was the most difficult and dangerous to caulk. A sailor would have to be lowered over the side and work in the dangerous location "between the devil and the deep blue sea." "There'll be the devil to pay" has a similar derivation. Paying is the act of pouring hot pitch into a seam after oakum has been pounded in, commonly referred to as caulking. In bygone years, the complete utterance was "There'll be the devil to pay and no hot pitch"; thus, not only damning the work location, but also cursing the lack of preparation, since no hot pitch was ready. Caulking was a frustrating job. Nerves became raw as the hot pitch was spread along the seams. A loggerhead was a tool used for this work. Fights would break out, and the tool would be used as a weapon. The seriousness of the affair was captured by the expression that the combatants were "at loggerheads." This term today describes an angry relationship between two individuals.

"son of a gun"



"there'll be the devil to pay"

The principles of sailing a full-rigged ship are as mysterious to some as those of splitting an atom. And yet, the English language draws extensively upon the rich language barked out by captains and mates to sailors on deck and aloft during bygone days. A captain would be wise to give the order to sail "by and large" to an inexperienced helmsman (steerer). The ship would not be sailing directly toward its desired destination; but this command would not tax the ability of the helmsman. Colloquially, "by and large" means generally speaking, or lacking precise knowledge or skill. If the helmsman did make an error and the wind struck the face or front of the sails, the ship would be "taken aback." This term means to be stopped suddenly and bears the same significance today. Should another ship come between a vessel and the wind, that ship would block out the breeze and "take the wind out of my sails." Colloquially, this saying denotes that someone has been out-performed.



An expression more commonly used in "British" English than in the Yankee provincial form is "carry on." Recall the series of British movie comedies, *Carry On, Nurse* and *Carry On, Teacher*. Aboard the square rigger, "carry on" was a specific order not to shorten sail, but to carry as much canvas as possible. A Yankee might bellow "full steam ahead," a nautical expression of a later era. An individual who "knows the ropes" today is an expert who knows what to do. A century-and-a-half ago, a novice sailor knew no more than the names and uses of the primary ropes, and his discharge papers were marked "knows the ropes." When the wind fills sails, a ship takes on a slight inclination or list. Accordingly, the only time the sailing ship is not listing is when there is no wind at all and the ship becomes "listless." Today, the word

"listless"

means dull or lifeless. On board a square rigger, to ask "give me some leeway" would be requesting the helmsman to leave adequate room between the ship and an object on the leeward side. Colloquially, this is used commonly to request room to spare. To an experienced square-rig sailor, the meaning of "it's an ill wind that blows nobody any good" is apparent, for a sailing ship mariner will curse the calm. But to his way of thinking, a wind from any direction must be benefiting someone. William Shakespeare also appreciated this thought for he used it again and again with slight variation: "Ill blows the wind that profits nobody" and "Not the ill wind which blows no man to good."

The sea can be demanding and many nautical expressions have grown out of man's confrontation with the elements. To be "under the weather" bears its original meaning today. "Overwhelm" is derived from the Saxon *whelmen*, which means "to bury in heavy seas." Sailing ships are powered by the wind as it fills the sails. Should rigging break, a part would be carried away and control would be lost. When a person gets "carried away," he also loses control. If a mast should fall and pass over the bulwarks, the walls of the ship surrounding the main deck, it would have "gone by the boards." As implied in the colloquial meaning, the mast would be irretrievable. Decisions aboard sailing ships had to be prompt: any order took time to execute. Sailing ships lying in poorly protected harbors were anchored with their bow toward the sea, for in bad weather they were safer at sea than pinned against the shore. If a storm arose, the captain could give the order to "cut and run." The anchor cable would be sliced and the ship put to sea immediately.

The parts of a ship are often referred to in daily speech. Ornate "figureheads" enhanced the bows of most sailing ships: originally there to ward off evil spirits, as sailors became less superstitious, the pragmatic value of this art gave way to its decorative appeal. Today, a person who is a "figurehead" is also ornamental.

"cut and run"

"Bits" are two vertical beams through which the ship's anchor cable passes. If all of the anchor cable were run out, that which remained on board running through the bits would be "the bitter end." The expression "I don't like the cut of his jib," warns to beware of a stranger. The jib is a triangular sail set in the stays of the foremast. Many regions of the world have recognizable ways of cutting and rigging a jib, thus revealing a stranger's identity.

Midway down the deck of a ship is a "booby hatch." Not found on many ships, this is a small opening used to facilitate movement to below-decks. The evolution of the current meaning has been lost. Deranged sailors were often confined below-decks and generally this hatch was the smallest and the least used. These facts may have influenced the current meaning, a mental institution. Until a few decades ago, sailors slept in hammocks and only a few officers on each ship had bunks. During the early nineteenth century, before passenger ships were in common use, packet ships plied regular routes. Packets were designed to carry mail, special cargoes, and passengers whose accommodations included small permanent sleeping berths known as "cribs." Most cargo ships are equipped with booms, which lift cargo on board. When the loading is finished, the booms are lowered. Today, "lowering the boom" means to bring something to an end.

Continued on next page.....



GREAT REPUBLIC - Launched 1853. World's largest sailing ship. Pen sketch by Frank O. Braynard - Author "FAMOUS AMERICAN SHIPS" (Published 1978 by Hasting House).

Reprinted with permission of *Surveyor* magazine, American Bureau of Shipping.



Oh, 'tis hemp and singing pine
for to stand against the brine,
—Rudyard Kipling.

Shipbuilding has also been the source of several common expressions to language. A beached ship, or one under repair, was considered "high and dry," much as the person who is out of his element. To ease the launching of a vessel, grease--in the old days lard--was applied to the runners under a hull, hence "greased the ways." Now it means the path has been eased or smoothed.

Sea warriors have yielded rich additions to our vocabulary such as the expression "no quarter," a phrase meaning no mercy. During combat in medieval times, an officer could surrender and purchase his life for a quarter of his yearly earnings. The call "no quarter given" notified an opponent that the fight must be to the death. Notwithstanding the superb marksmanship exhibited in the movies, sailing-ship cannon were effective only at ranges less than 50 yards; anything beyond that distance was considered to be a "long shot." Today, as yesterday, the expression means of great odds and is particularly associated with the race track.

The fisherman has also contributed to the rich nautical vocabulary. "Fish or cut bait" emphasizes that there is no room for the idler on these hard-working boats. Have you ever "taken the bait"? Once you have, you are "hooked"! And if you become more

"fish or cut bait"



deeply involved than reason would dictate, you have fallen "hook, line and sinker."

Most people have unknowingly adopted the language created by the merchant mariner to express quality and honesty. "A-1" condition tells that the hull--the A rating--is in superior condition as is the gear--the "one" rating. This system, created by the marine insurance firm Lloyd's of London is used by ABS in its shipping register Record.

"Posh" accommodations were the most expensive available aboard the British P&O line, which sailed between England and India using the Suez Canal. The word, stamped on the ticket, was a composite of the first initial of the words "Port Out Starboard Home." This cabin arrangement placed the ticket holder on the shaded side of the ship for the entire voyage. This was particularly important as the ship passed through the boiling Red Sea.

"posh"



"quarantine"

Bills of lading are manifests listing goods entrusted to a ship's captain to be transported. The recipient of these goods would be a prudent man if he checked the merchandise to be sure that it "fits the bill." And a ship's "bill of health" is a certificate signed by an authority stating the general health conditions in the port and on board the departing ship. A "clean bill of health," one without reservations, was highly desired. If plague were found on board, a ship would be "quarantined." The first case of isolating a ship for this reason occurred in Marseilles and the vessel was held for forty days, or *quarant* in French; thus the evolution of the term quarantine.

"windfall"

"Mark twain!" was the cry of rivermen measuring the depth of water to determine if it was sufficient for safe passage for the vessel and is the pen name of Samuel Langhorne Clemens.

Geographic names became synonymous with goods and events within the sailor's vocabulary, and have been borrowed freely. "Java" is coffee, the logical reason that during past centuries the island then called Java was among the primary sources of coffee beans. Have you ever been "shanghaied" from someplace? During the last century, sailors found life so good in port they had to be tricked or bullied back to their ship.

Luck also has its place in nautical expressions. In past centuries trees could not be cut on specified tracts of land in Great Britain. These forests were timber reserves for the Royal Navy--a critical national resource. However, if a tree blew down, the proprietor could use the timber for his own ends; thus a stroke of good fortune, or a "windfall."



Sea Language Washes Ashore

ROBERT L SCHEINA U S C G

No sea story is complete without pirates, and the language owes a debt to Blackbeard and Henry Morgan who plundered the Spanish main four hundred years ago. "Aboveboard," today meaning honesty, may have been derived from the pirate practice of hiding crews below-decks and trying to entice merchant ships to come close. Another method of deception employed by pirates, as well as by some ships of the line, was to "sail under false colors." Today this expression is used to describe an attempted deception.

"aboveboard"



"shanghaied"

These pirates had few havens ashore where they could obtain supplies. However, many of the Caribbean islands were populated by wild cattle and their meat became a primary staple for the pirates. The French word *boucan* is a grill for cooking meat. From this has evolved "buccanneer," or one who eats dried meat. Recalling Robert Louis Stevenson's character Long John Silver in *Treasure Island*, one can almost hear him refer to Jim Hawkins as a "stinkpot." This term well describes an incendiary bomb filled with combustibles used by eighteenth-century privateers. This infernal device was thrown or dropped onto the decks of an opposing ship. the intolerable stench and smoke filled the decks causing tumult.

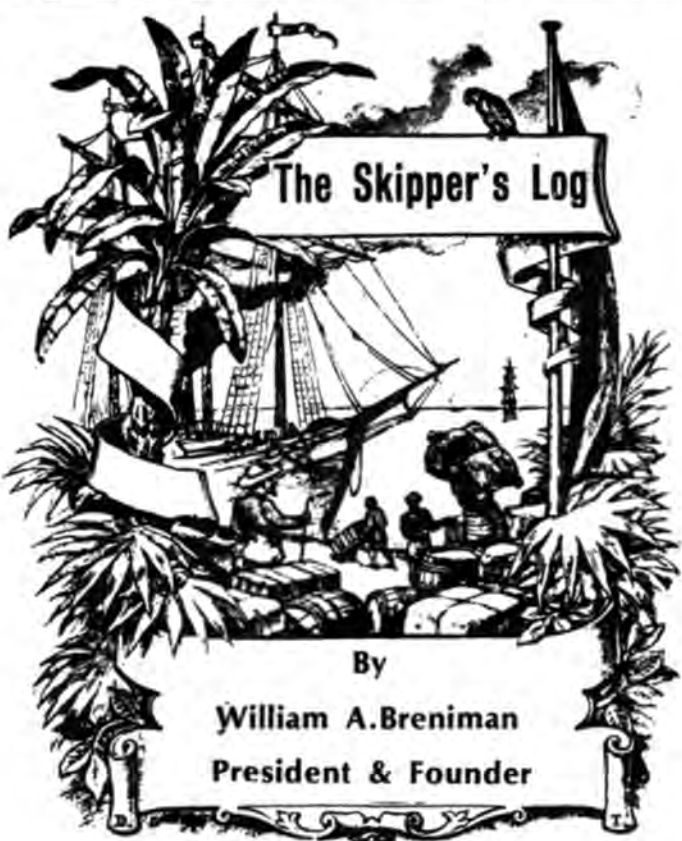
On an evening when a breeze is soaring and the white waves heave high, think of other salty words and phrases that have added flavor to our speech and think too of the sailors who confront the seas and hope for a fair wind from the trades.

● Robert L. Scheina

Robert Scheina, Ph.D. has been the Coast Guard historian since 1977. Before joining the Coast Guard's civilian force he worked for the Navy, first as a special research officer in the Historical Research Branch, Naval History Division and then as a senior analyst at the Naval Intelligence Support Center. During that time he received an Outstanding Performance Evaluation and several letters of commendation.

Dr. Scheina has authored and co-authored numerous publications, both government and non-government. In the latter category, his efforts include: co-author, "Naval Craft," *Encyclopedia Britannica*, 15th edition; author, "Benjamin Stoddert, Politics and the Navy," the *American Neptune*, 1976; author, "Mass Labor: The Key to Spanish Ship Construction during the 16th Century," *The Mariners Mirror*, 1971; author, "Seapower Misused: Mexico at War, 1846-48," *The Mariners Mirror*, 1971; author, "The Forgotten Fleet: The Mexican Navy on the Eve of War," *The American Neptune*, 1970; co-author, "Battleships of the U.S. Navy 1886-1969," and contributing consultant to "Historia Maritima del Peru," volumes for 1850 through 1875, and 1875 through 1920.

In 1976, Bob Scheina received his Ph.D. from the Catholic University of the Americas, Washington, DC. He has also earned an M.A. from the University of the Americas, Mexico City, Mexico, and a B.A. from Parsons College in Fairfield, Iowa. He is a talented speaker, as well as writer and researcher, and is often requested to present programs on historical and current interest topics to government officials and civic groups.



Our Wavelength is Brotherly Love

NEWS&VIEWS

WELCOME - 1980

A NEW DECADE -- A NEW DEDICATION TO SERVE !

TEN YEARS AGO as we crossed the threshold of 1970, the Society, then a little over 2 years of age, was already showing signs of growth and approbation. As the year 1969 drew to a close, Allen Barnabei became member No. 500 on Dec. 31, 1969. Since then we have added OVER THREE THOUSAND MEMBERS and in so doing we have become the largest professional organization of its kind in the world.

Hundreds if not thousands of letters and calls have been received over the years expressing appreciation and encouragement. We feel this acceptance and praise is solid endorsement of what we have accomplished and should be shared with all those who have volunteered their time, service and talent in any way toward the promotion and growth of the organization.

We enter the new decade of the Eighty's with members in nearly every country of the world. Nearly all except a few countries in Africa and the Iron Curtain areas of the East are listed in our World-Wide Roster which will be published shortly in our Directory.

When the Society was founded, the primary objectives, based on the tenet of the founder and associated charter members was one of promoting fellowship and fraternalism among those in the craft. We have come to realize that we are bound together by a common-interest that insures this goal as personified by the growth of our organization. Many of us who have watched the Society develop now feel that as a non-profit organization whose roots are deeply planted in the scientific and historical field, that the recording of the history of Communications in general, with special emphasis on the radio-telegraph mode as it relates to Hertzian waves should be our first priority. The Officers and Directors of the Society who met on June 21, 1979 concurred in this change of philosophy in programs, priorities and plans.

During the past years we have received many Scientific and Historical papers submitted by members who have been leaders in the field of communications and whose names are known throughout the world. Some of these papers have been given at Chapter meetings and a number published by the Society. We have a good backlog of very meaningful documents in our archives catalogued for early use.

Many members have submitted "Episodes & Experiences" of the early days and on subjects that will be of interest in the years ahead. We must preserve this memorabilia and these historic records for posterity.

I would like to take this occasion - as 1979 draws to a close, to thank each and every member who has held office or who has helped the Society in ANY WAY for their effort and interest. It has been appreciated by us all. Likewise looking to the future ... CHEERS AND APPLAUSE to new officers who will be guiding the Society. We wish them strength, guidance and inspired leadership. One thing we will not worry about---that is the loyalty of our wonderful membership.

Thanks and best wishes to all

William A. Breniman
Founder and President

Bill '73

"CLEARING THE HOOK"

IMPORTANT TO MEMBERS—PLEASE READ

1980 DUES PAID ?

One of the best procedures we have followed in past years was that of sending out our dues statements in blank, requesting members to process them and return without delay. We called this our "DO IT YOURSELF" dues procedure. We have found most members keep quite accurate records hence a check on their dues standing and remit with little trouble. Thus we eliminate need to check each individual account with statement to match - a very time consuming job which requires hours of clerical work.

During the years ahead, the Directors have established the following annual dues fee and schedule at the meeting June 29 1979 during business session at Milbrae, Calif. :

1980 - DUES SET AT \$7.50 for this year only - the same you have been paying the last 3 years.
1981 - Dues have been established @ \$10.00 per annum. A check for \$17.50 will pay up for 2 years (1980 and 1981).
3-YEAR INDUCEMENT: The Society dues will remain @ \$10.00 per year through 1981/83. If our members so elect, they can send a check for \$25.00 to cover these three years in advance.

REVENUE: Since our publications contain NO ADVERTISING, dues are practically the only source of revenue we have to fund publications and handle business expenses. We receive some funds from wills and donations but the main dependable source must be by annual dues. Our dues have not kept pace with cost of living index and two major expenditures (mailing and printing costs) seem to escalated beyond the normal CDA index. We also try to furnish publications to "Hard-ship" cases - those who have been ill or whose small pensions have failed to reach. For this reason your donation - if you can afford, will be appreciated. We realize that many are feeling the 'pinch' in their low annuities, hence do not give unless you can really afford to. T.U.

WISH TO CHECK YOUR RECORD ?

Should you wish to inquire about your dues standing, it can be very easily done. Simply send us a STAMPED RETURN ADDRESSED ENVELOPE enclosed in your INREQ. Be sure to print your name clearly and furnish Serial Number for checking. We will provide the information on your INREQ and return without delay. It might be noted that "ACTIVE" MEMBERS WHO HAVE PAID THEIR DUES THROUGH 1979 will receive the DIRECTORY/CALL BOOK when mailed - even in 1980.

MEMBER LIFE-SUSTAINING FEE

This feature was mentioned on Page 31 of our last JOURNAL (PQ-17 Edition). Many have already taken advantage of having a "PAID UP" life membership so you no longer have to fool around with dues. Likewise, it saves us a great amount of clerical time. It might be noted that if your dues are already paid up through 1980 or 1981 that these payments may be deducted or subtracted from the LIFE FEE SCHEDULE in case you wish to take advantage of it. Fee schedule as follows:

Sr. SGP	\$25.00	"PIONEER"	\$100.00	Regular Members and Technical
SGP	50.00	"VETERAN"	150.00	Associated
				\$225.00

In case of severe inflation rates that might occur in the future, the Society does reserve the right to increase the rate/s to cover inflation costs based on C/L index of the Government.

CALENDAR - 1980

The Society's 1980 Calendar was placed in the mail addressed to every member on Dec. 12 1979 via Third Class Bulk mail or to Canada and Foreign Countries via PRINTED MATTER. A few extra copies may be available for cost of mailing (about \$.50¢) Send SASE so 50¢ may be returned if we run out. Late Member James Douglas Haig (1836-S-SGP) who became a "SK" in March 1977 was a gifted painter and this calendar is from one of his water-colors in four colors. It is the Wireless Room on the USS VIXEN to which he was assigned back in 1913.

ELECTIONS - BALLOT

A slate of Officers and Board of Governors has been worked up and presented by the Nomination's Committee which carries its endorsement. Ballot will be sent to all qualified members and will be mailed shortly. The date for returning of Ballots of Feb. 1 1980 has been extended to Feb. 15 1980. You can vote anyone of your choice. Please mark and return addressed ATTENTION - BALLOT TELLER. Prof. Herbert Scott, Secretary has agreed to act in this capacity. Please address to HQ (PO Box 530, Santa Rosa, CA 95402).

COMING PUBLICATIONS

It may be noted that certain regular features have been deleted from this issue of the JOURNAL. These include all data and statistics about our members, ie New Members, Silent Keys, Changes of Address etc. Also included in the list is the Society's SLOP CHEST, CHAPTER & AMATEUR NET NEWS,

These categories of information will henceforth be included in THE SKIPPER'S LOG (Smooth copy) These will be furnished all members periodically, perhaps two or three times yearly. Much of the format will be a repetition of the SKIPPER'S LOG (Rough Log) now being furnished CHAPTERS & NETS for their information on a monthly basis. This will enable all members to keep their Directory, Call Books etc. up to date. It will also carry net schedules, and details about all Slop Chest items. Chapter news and Directories will also be carried in more comprehensive detail than the past.

Incidentally - the name of our SPARKS JOURNAL will not be changed to WIRELESS JOURNAL until a later date. We will continue it as a QUARTERLY for the present. This will give us added time to publish the coming Directory/Call Book, Wireless & Marine Almanac and SPARKS IV, all now being worked on.

DIRECTORY/CALL BOOK

We worked up copy for the DIRECTORY/CALL BOOK during 1979. However, he had so many changes of address, New Members, etc., that it became practically 'outdated' before he had a chance to print it. We have now completely updated the CALL BOOK section (Thanks to John N. Elwood) and making necessary changes in our Directory, etc. This long awaited publication should be out in January. We suggested previously that you retain Vol. 2 No. 3 (Glass Arm Edition) as it contains many changes of address, new members, silent keys etc. for reference. We are hopeful our record system can be converted to computerization with the use of 'printouts' that would provide instant data in the future. This will take care of the obsolescence and rapid changes which is hard to cope with. The conversion will be quite expensive but we think it will be worth the cost.

WALL CERTIFICATES FOR NEW MEMBERS

Certificates have been imprinted for all members carrying SOWP SERIAL NO. 2925 to 3319. They will be processed and mailed in the very near future.

FAMOUS AMERICAN SHIPS

(New Revised and enlarged edition) FRANK O. BRAYNARD, author. HASTINGS HOUSE PUBLISHERS, INC, 10 East 40th St. New York 10016. Price \$12.95
The limited space here does not allow us justice in reviewing this very fine book. Frank Braynard is not only the leading expert on American Shipping but he is an outstanding illustrator. His pen-and-ink drawings of the ships featured are superb. The stories are told with a wealth of detail: there are anecdotes, snatches of song, and bits of forgotten lore. We recommend it most highly to all those interested in Ships .. especially American ships. You will never go wrong with a book Frank Braynard has written and published.

We have several other reviews which space did not allow to publish in this issue but will be included in our next issue.

Book Reviews

THE GREAT WHITE FLEET

Author John H. Melville's book on Ships of the United Fruit Co., was reviewed in our last issue.

It might be of interest of members that the author has a few books at home he will sell SOWP members. The price tab is \$7.95 plus postage. This is a very interesting book and we think it will become a 'Collector's Item'. ADDRESS" JOHN H. MELVILLE, 1080 SW 2nd St., Boca Ratan, FL 33432.

Few things are as bad as enthusiastic ignorance

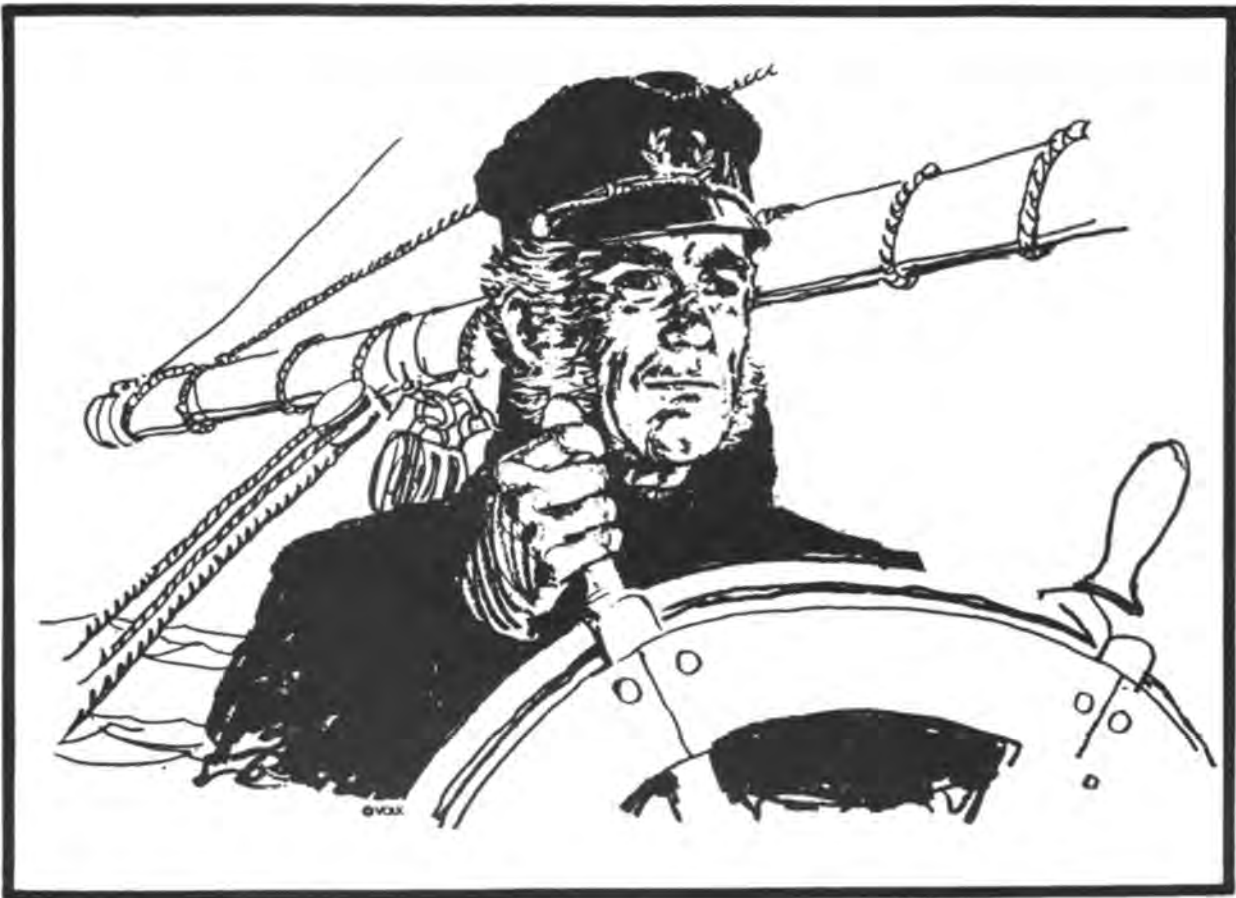
Everything's got a moral, if only you can find it

No one is perfect, but many of us are impossible

If life had a second edition, how would you correct the proofs?

Some people stay longer in an hour than others can in a week

Begin at the beginning, continue to the end; then stop



Sea Language Washes Ashore

ROBERT L. SCHEINA

REPRINTED FROM "PROCEEDINGS" OF THE MARINE SAFETY COUNCIL AUGUST 1979

The rich colorful vocabulary of the sea from generations past is still a vibrant part of daily English language. Most persons do not know the origins of words and phrases that have become colloquial expressions, and time has changed or distorted the meanings.

What were precise directions or descriptions have become general phrases that hint at meaning. Yet, they retain the flavor and imply the discipline they once had--and the language of the sea emphasizes discipline. Going to sea--whether for sustenance, transportation, or war--was not a carefree business. The late dean of American maritime history, Samuel Eliot Morison, chastised the poet Allan Cunningham for his ballad:

"O for a soft and gentle wind!
I heard a fair one cry:
But give to me the soaring breeze
And white waves heaving high."

Morison wailed, "Baloney! No real seaman likes high and heavy seas because they bring trouble and danger. His ideal is the trades--a good steady full-sail breeze"

Discipline has always been demanded by the task-masters of the sea. "He let the cat out of the bag,"

said today, is often followed by an expletive deleted. Six score years ago on board a square rigger, this utterance would have brought chills to the spine, for some poor soul had just committed an offense sufficiently grave to extract the cat-of-nine-tails from its canvas bag. The cat has been out of vogue since the early nineteenth century and needs an introduction. The cat was made of nine lengths of cord, each about 18 inches long with three knots at the tip, fixed to the end of a larger rope which was used as a handle. Flogging, at the very least, would cause severe wounds and could cripple or even cause death. Only Errol Flynn and fellow Hollywood mariners have been able to shrug off its effects. The United States Congress prohibited the use of the cat in 1850, and it was outlawed from the British Royal navy in 1879. In fact, the cat had fallen into disuse in both fleets shortly after the War of 1812. The brutal instrument is also the basis of the expression "not enough room to swing a cat." Obviously, the two-foot cat, added to the length of the fully extended arm of the flogger, required a good measure of working room. A sailor's misdeeds were recorded daily, and punishment was carried out on the following Monday; thus, the birth of the expression "blue Monday."

SEA LANGUAGE.....

Sailors were considered a rough lot and not to be trusted by their superiors--the officers. Although armed to the teeth when the enemy was at hand, sailors were prohibited from having weapons at any other time. The one exception to this rule was the knife, for this was an essential tool for all seamen. Should, however, the sailor draw his knife in anger, he could lose his hand as specified by British Admiralty law--thus, the derivation of the expression "hands off."

Maritime discipline was harsh; human rights were restricted and, as a result, specific shipboard havens developed. The term "scuttle butt" evolved from this background. There was a cask (butt) with a square hole (scuttle) cut in its bilge, kept on deck to hold water for ready use. On board ships where discipline was strictly enforced, merchant as well as war, the "scuttle butt" was one of the few places on deck where sailors were at liberty to talk; and, today, the term is synonymous with gossip.

Discipline was the ounce of prevention in combating the ancient mariners' greatest fear--fire at sea. Today, "the smoking lamp is lit" frees an individual to "light up" wherever he might be. This interpretation does not bear the severe restriction originally intended. For aboard ship, this lamp was the only place where the sailor had access to fire, and the tobacco had to be smoked in its immediate vicinity, usually the galley (kitchen). To protect the weak-willed from the "cat," sailors were not permitted to carry flint--the match was not in general use until the middle of the nineteenth century. As iron and steel replaced wood as the primary building material for ships, additional precautions against fire were enforced on vessels carrying dangerous cargoes. For example, mariners were prohibited from wearing shoes using metal nails. A spark in the magazine of a warship or the hold of a merchantman loaded with nitrates or grains could be catastrophic.

CONTINUED ON PAGE-29



YESTERDAY
Racing China Tea
Clippers

(From painting by Patterson)

HOME



... FROM THE SEA

***** The "Wireless" - Our Proud Heritage! *****

SOCIETY OF WIRELESS PIONEERS, INC.
P. O. Box 530
SANTA ROSA, CALIFORNIA 95402



NEWSPAPER
SPARKS - JOURNAL

SECOND CLASS POSTAGE
PAID
AT SANTA ROSA, CALIF.

TO:

Newsletters from the Society of Wireless Pioneers, founded 1968
~ Dedicated to the History of Seagoing Wireless Operators ~

Special thanks to the following for these documents:
Key [SK = Silent Key, SGP = Spark Gap Pioneers, P = Pioneers,
V = Veteran, M = Member, Sparks = Worked at Sea]

(SK) Ed Raser, W2ZI, Radio Pioneer, Sparks, SOWP #35-SGP
(SK) Bill Gould, K2NP, Radio Pioneer, Sparks, SOWP #565-P
(SK) Matty Camillo, W2WB, Sparks, SOWP #750-SGP
(SK) Dare Robinson, WB2EVA, Sparks, SOWP #2284-SGP
(SK) Ray Brooks, K2LTX, Sparks, SOWP #1387-P
Olive Jesse Roeckner, VA6ERA, Sparks, SOWP #2891-V
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